PB82-158817

Mobil Chemical Company, South Fort Meade Mine
Polk County, Florida

(U.S.) Environmental Protection Agency
Atlanta, GA

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Mobil Chemical Company has proposed an open pit phosphate mine, benefication plant and transshipment facility on a 16, 288-acre site in southern Polk County, Florida. Mining would involve 15,194 acres, all of which would be reclaimed, and would produce 77 million tons of phosphate products over a 25-year period. The EIS examines alternatives, impacts and mitigative measures related to air, geology, radiation, groundwater, ecology and other natural and cultural systems.

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Agency

Region 4
345 Courtland Street, NE
Atlanta, Ga 30365

EPA 904/9-81-092
January, 1982

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EPA

Environmental Impact Statement

Final

Mobil Chemical Company South Fort Meade Mine Polk County, Florida

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

FINAL
ENVIRONMENTAL IMPACT STATEMENT

for

Proposed Issuance of a New Source National
Pollutant Discharge Elimination System Permit

to

Mobil Chemical Company
South Fort Meade Mine
Polk County, Florida

prepared by:

U.S. Environmental Protection Agency
Region IV, Atlanta, Georgia 30365

cooperating agencies:

U.S. Army Corps of Engineers
Jacksonville District
Jacksonville, Florida 32201

U.S. Department of the Interior
Bureau of Land Management
Eastern States Office
Alexandria, Virginia 22304

Mobil Chemical Company has proposed an open pit phosphate mine, beneficiation plant and transshipment facility on a 16,288-acre site in southern Polk County, Florida. Mining would involve 15,194 acres, all of which would be reclaimed, and would produce 77 million tons of phosphate products over a 25-year period. The EIS examines alternatives, impacts and mitigative measures related to air, geology, radiation, groundwater, ecology and other natural and cultural systems.

Comments will be received through March 8, 1982. Comments or inquiries should be directed to:

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approved by:

Charles R. Jeter
Regional Administrator

Jan. 6, 1982
Date

Summary Sheet
for
Environmental Impact Statement

Mobil Chemical Company

Phosphate Mine

( ) Draft
(X) Final

U.S. Environmental Protection Agency, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

1. Type of Action: Administrative (X) Legislative ( )

2. Description of Action:

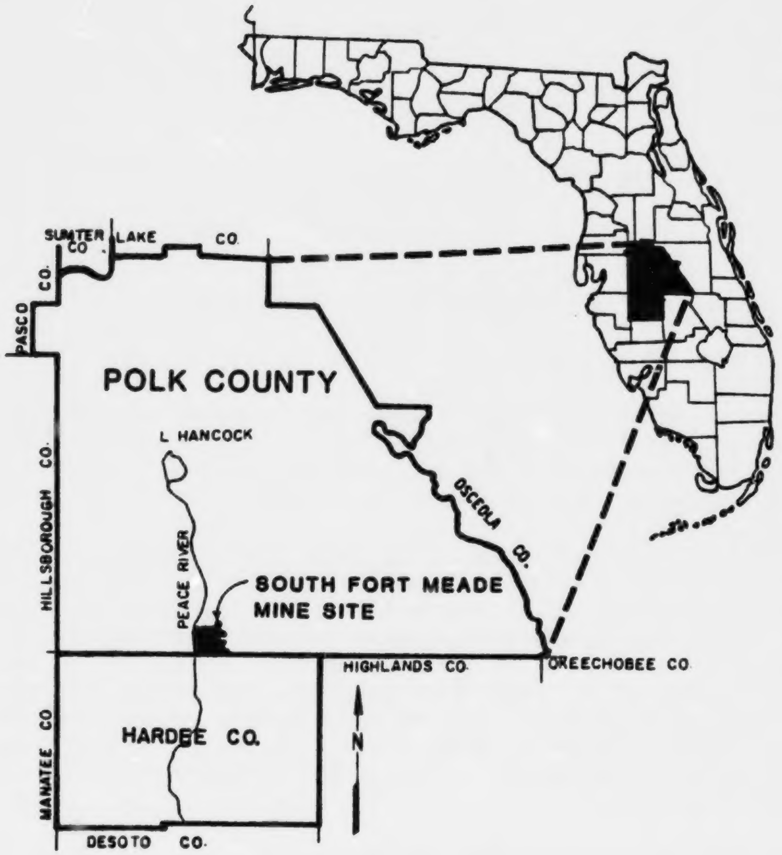
Mobil Chemical Company (Mobil) is proposing to construct and operate a phosphate mine and beneficiation plant in Polk County, Florida (Figure 1). The EPA Region IV Administrator has declared the proposed facilities to be a new source as defined in Section 306 of the Federal Clean Water Act.

In compliance with its responsibility under the National Environmental Policy Act (NEPA) of 1969, EPA Region IV has determined that the issuance of a new source National Pollutant Discharge Elimination System (NPDES) permit for the proposed mining and beneficiation facility (the South Fort Meade Mine) would constitute a major Federal action significantly affecting the quality of the human environment. Therefore, this Environmental Impact Statement (EIS) has been prepared in accordance with the requirements of NEPA and EPA regulations in 40 CFR Part 6. EPA will issue, issue with conditions, or deny issuance of the NPDES permit based on the review of the permit application and the findings of this EIS.

The applicant's proposed mining operation, the South Fort Meade Mine, would produce 77 million tons of wet phosphate rock over the 25-year life of the mine. A total of 15,194 acres of the 16,288-acre tract would be disturbed during mining. The mine would be designed to produce approximately 3.4 million tons of phosphate rock annually and would be developed in two phases. Phase I is scheduled to start up in 1984 following a 21-month construction period. Phase I operations, with an estimated capacity of 1.7 million tons per year, would include one dragline and an associated beneficiation plant. The start up of Phase II is planned for 1987 following a similar 21-month construction interval. Facilities comparable to Phase I would be developed in Phase II,

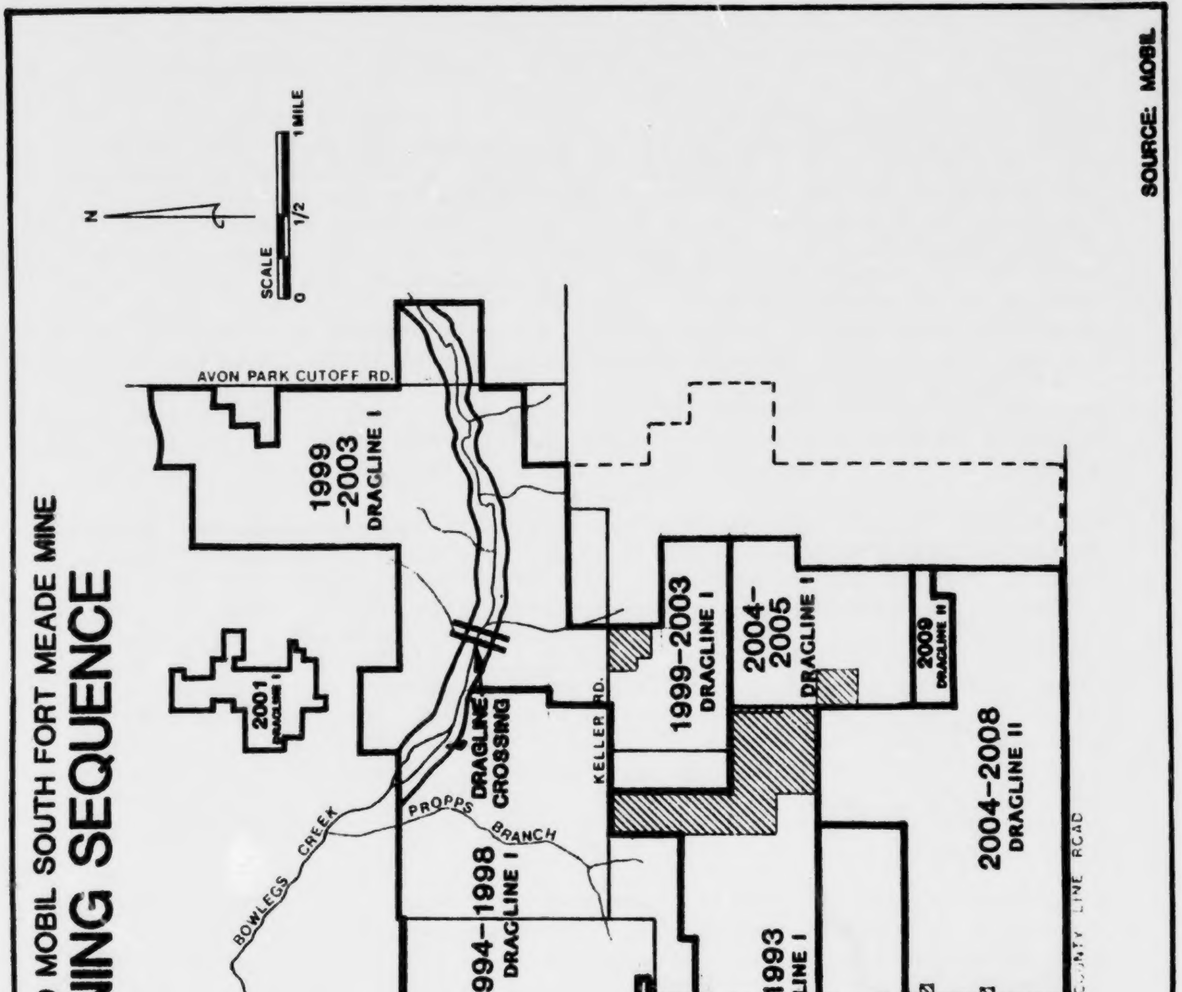
FIGURE 1

LOCATION OF PROPOSED SOUTH FORT MEADE MINE SITE


SUMTER CO.
LAKE CO.
PASCO CO.
POLK COUNTY
L HANCOCK
HILLSBOROUGH CO.
PEACE RIVER
OSCEOLA CO.
SOUTH FORT MEADE MINE SITE
HIGHLANDS CO.
OKEECHOBEE CO.
MANATEE CO.
HARDEE CO.
N
DESOTO CO.

SOURCE: MOBIL

FIGURE 2


N
SCALE
0
1/2
1 MILE
AVON PARK CUTOFF RD.
1999 -2003 DRAGLINE I
2001 DRAGLINE I
1999–2003 DRAGLINE I
2004–2005 DRAGLINE I
2009 DRAGLINE II
2004–2008 DRAGLINE II
DRAGLINE CROSSING
KELLER RD.
BOWLEGS CREEK
PROPPS BRANCH
1994–1998 DRAGLINE I
1994–1998 DRAGLINE I
1989–1993 DRAGLINE I
2004 DRAGLINE II
1999– 2003 DRAGLINE II
COUNTY LINE ROAD
KELLER RD
1987–1988 DRAGLINE II
1984– 1988 DRAGLINE I
DESHEON RD
MT. PISGAH RD.
1989–1993 DRAGLINE II
BRANCH
1994– 1998 DRAGLINE II
GUAR RUN
GILSHEY BRANCH
1989–1993 DRAGLINE II
STEPHENS
PEACE RIVER
U.S. 17
OUTPARCELS (PRIVATELY OWNED)

PROPOSED MOBIL SOUTH FORT MEADE MINE
MINING SEQUENCE

SOURCE: MOBIL

increasing production capacity to 3.4 million tons per year. The mining sequence, illustrated in Figure 2, is proposed to continue for 25 years with reclamation activities extending 10 years beyond the life of the mine. Equipment and procedures similar to those presently used in Mobil's two Florida phosphate mines are proposed for the new facility. Land clearing would involve harvesting or burning the vegetation on 50-acre parcels in advance of the mining operation. At full production, two large walking draglines would operate simultaneously, mining phosphate from separate areas. Ore would be slurried and hydraulically transported in pipelines to the beneficiation plant for washing to separate pebble product, clay, and fines, and for flotation to recover additional phosphate product. Wet rock would be stored in on-site stockpiles or loaded directly onto railroad cars for transport to Mobil's existing rock-drying facilities in Nichols, Florida.

Waste clay and sand tailings from the beneficiation plant would be redeposited on the property in clay impoundment areas and sand tailings backfill areas. Mobil's proposed action includes utilizing the conventional clay settling technique for waste disposal and reclamation. The initial waste clay settling areas would be built on unmined ground with dikes constructed of overburden material. These settling areas, totaling 1,320 acres, would hold the waste clays generated during the first four years of mining. All other waste disposal areas would be constructed on mined land. The waste disposal plan proposed by Mobil calls for 8,170 acres of above-grade clay settling areas, 1,513 acres of below-grade clay settling areas, 5,034 acres of below-grade sand tailing fill areas with overburden cap, and 308 acres of overburden fill areas. Sand tailings would be used to cap 1,489 acres of above-grade clay settling areas.

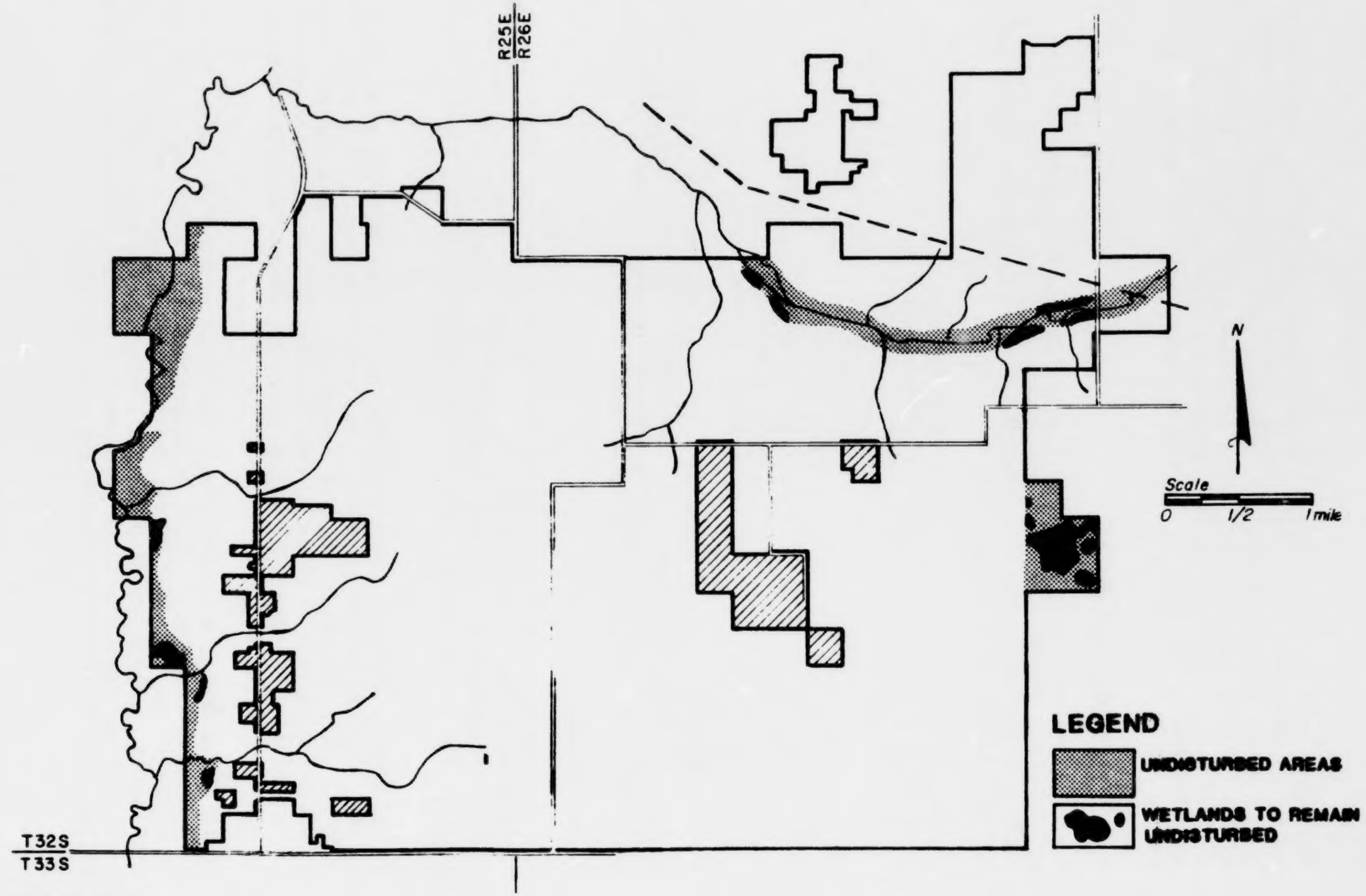
Water uses and estimated flow requirements for the South Fort Meade Mine are identified as follows: slurry water for slurrying and transporting the ore from the mining area to the beneficiation plant (27.0 mgd), seal water for transfer pumps (0.691 mgd), washing/dilution water for the washing facilities (52.0 mgd), rinsing water for the feed preparation process (38.0 mgd), process water for flotation (55.9 mgd), and miscellaneous potable water (0.022 mgd). Most water required would be supplied from the recirculation system (157.2 mgd). Groundwater would be used to supply water to the flotation process (12.3 mgd) and for makeup water (3.4 mgd), pump seal water (0.691 mgd), and potable water (0.022 mgd). The total consumptive use of groundwater is projected to be 16.413 mgd.

Approximately seven percent of the site (1,094 acres) would not be disturbed by the proposed mining operation (Figure 3). These undisturbed areas include 111 acres of freshwater swamp, 21 acres of freshwater marsh, 3 acres of surface water (ponds), 664 acres of upland hardwood forest, 182 acres of cutover forest, 108 acres of improved pasture and 5 acres of upland mixed forest.

The mined areas would be used for waste disposal, with sequential reclamation following completion of the waste disposal activities in each disposal area. The entire reclamation program would be completed 10 years after mining has ceased (mine year 35). Mobil's proposal calls for the reclamation of approximately 60,000 linear feet of stream channels and 1,912 acres of wetlands on

FIGURE 3

UNDISTURBED AREAS


R25E
R26E
N
Scale
0
1/2
1 mile
T32S
T33S
LEGEND
UNDISTURBED AREAS
WETLANDS TO REMAIN UNDISTURBED

SOURCE: ZELLARS-WILLIAMS

the site. The reclaimed stream channels would replace the disturbed tributaries of the Peace River and Bowlegs Creek. The reclaimed site would contain 11,521 acres of improved pasture, 182 acres of cutover flatwoods, 664 acres of upland hardwood forest, 1,276 acres of upland mixed forest, 453 acres of planted pine, 3 acres of surface water areas (ponds), 277 acres of forested stream channel, 589 acres of freshwater swamp, and 1,323 acres of freshwater marsh.

3. Alternatives Considered:

Mobil's proposed mining and beneficiation operation is comprised of a number of individual mining subsystems that, when combined, provide a total project capable of satisfying Mobil's objectives. The identifiable subsystems included in the Mobil project are as follows:

Mining Method
Matrix Transfer
Matrix Processing
Waste Disposal
Reclamation
Water Sources
Plant Siting
Water Discharge
Product Transport

Various methods (i.e., alternatives) are available to satisfy the objectives of each of these subsystems. The subsystems, objectives and alternatives are identified in the following chart, and a brief description of each alternative is presented in the succeeding paragraphs.

Mining Method

Dragline Mining: Mobil proposes to use two 45-cubic yard draglines for removing the overburden and mining the phosphate matrix. Both draglines would operate independently, removing overburden and matrix in two separate mining areas. This is the conventional mining method used by the Florida phosphate industry.

Bucket Wheel: A bucket wheel excavator has a large rotating wheel with fixed buckets attached on its periphery. The bucket wheel excavator would excavate material and discharge it onto an associated conveyor belt system. Four bucket wheel excavators would be required for the proposed mine operation; two of the units would remove overburden while the other two units mined the matrix.

Dredge: The dredge unit consists of equipment mounted on a barge for floating and moving over the material to be excavated. The cutterhead dredge, considered the dredge unit best suited for mining phosphate in the central Florida area, would excavate and pump materials from beneath the water to the surface via a suction pipe. The South Fort Meade site would require two cutterhead dredge units to remove overburden and mine the matrix.

Mining Subsystem	Objective	Alternatives Considered
Mining Method	Remove overburden and deliver matrix to a transport system.	Dragline * Bucket Wheel Dredge
Matrix Transfer	Transport matrix from the mine to the beneficiation plant.	Pipeline * Conveyor Belt Truck
Processing	Process the matrix to separate the phosphate rock product from the waste sand and clay.	Conventional Beneficiation* Dry Separation
Waste Disposal	Dispose of the waste sand and clay generated by matrix processing.	Conventional Clay Settling Case * Sand/Clay Cap Case Sand/Clay Mix Case Overburden/Clay Mix Case
Reclamation	Return the mined site to useful productivity.	Conventional Plan * Sand/Clay Cap Plan Sand/Clay Mix Plan Overburden/Clay Mix Plan
Water Sources	Provide a continuous source of freshwater (about 16.413 mgd) for use in matrix processing and as makeup for losses to the recirculation system.	Groundwater * Surface Water
Plant Siting	Provide location which conserves energy and does not create environmental problems.	Gilshey Branch Site * Other On-site Locations
Water Discharge	Provide location for clear water pool discharge.	Peace River * Bowlegs Creek
Product Transport	Wet rock product transport	Railroad * Truck

* Mobil's proposed action

Matrix Transfer

Pipeline: The mined ore would be dumped by the dragline into a slurry pit for disaggregation. Recirculation water (27 mgd) would be directed by hydraulic guns to break up the material and slurry the matrix to a pumpable mixture. Each mining operation would have a separate slurry system with booster pumps to deliver the slurry to the plant. This is the conventional matrix transfer method used in the Florida phosphate industry.

Conveyor Belt: A conveyor belt system would begin at the field feed hopper. Ore would have to be transported from the mine area to the feed hopper. From the hopper the ore would be placed on the conveyor belt to be transported to the beneficiation plant. Two independent 36-inch conveyor systems would be required to transfer the ore from the two mining areas to the beneficiation plant.

Truck: Matrix transfer by diesel engine truck could be accomplished during Phase I with 25-ton capacity trucks making 820 round trips per day. During Phase II, 1,640 truck trips per day would be necessary using trucks with a 25-ton capacity.

Processing

Conventional Beneficiation: Conventional beneficiation operations at the mine would include washing, feed preparation and flotation, each with the purpose of separating phosphate rock from the associated organics and gangue minerals (limestone cobbles, quartz sand and a mixture of clay minerals). This is the only matrix processing method used in the Florida phosphate industry today.

Dry Separation: Dry separation is a process that involves drying, crushing and sizing. After being dried with a rotary kiln and crushed with a hammermill, the matrix would be processed through several stages of air separation to separate the pebble product from the finer materials. Additional phosphate product would then be separated from the remaining material by an electrostatic separator.

Waste Disposal

Conventional Clay Settling Case: Mobil proposes to use the conventional method of waste disposal as currently practiced at their existing mining operations in central Florida. The conventional plan calls for the separate disposal of sand tailings and waste clay. The sand tailings would principally be used to backfill mined areas (5,034 acres) and as fill in dike construction for clay impoundment areas. Waste clays would be contained behind earthen dams to be constructed on natural ground (1,320 acres) and in mined areas (8,363 acres). A flow-through settling technique is commonly used with conventional clay settling and would be implemented at the South Fort Meade Mine. This technique is generally utilized for clay settling basins that are located adjacent to each other. The procedure consists of introducing the waste clay stream into a series of clay settling basins instead of a single basin with all connected basins remaining active until the last basin is filled and inactived. The purpose of the flow-through technique is to achieve improved water clarification, clay compaction, and water management. Average dike height for this waste disposal case would be 38.7 feet above grade.

Sand/Clay Cap Case: The sand/clay cap case would have above-grade clay settling basin configurations similar to the conventional case; however, flow-through settling would not be used with the sand/clay cap disposal method. A five foot thick sand/clay cap (sand to clay ratio of 4:1) would be placed on top of the clay settling areas (7,580 acres). In order to place the sand/clay cap over the settling areas in a timely fashion, the basins would be taken out of service after the initial fill and actively dewatered to develop a crust. The average dike height for this case would be 36.7 feet. This waste disposal case also calls for 1,513 acres of below-grade clay settling basins partially capped with overburden, 590 acres of above-grade clay settling basins capped with overburden, 5,079 acres of sand tailings fill areas capped with overburden, and 308 acres of overburden fill areas.

Sand/Clay Mix Case: The sand/clay mix waste disposal method would involve mixing gravity thickened clays with dewatered sand tailings and depositing the mixture in mined areas for consolidation and stabilization. The clays would be pumped from the settling/thickening areas to the mix and disposal sites. Sand to clay ratios of approximately 2:1 have been shown in experimental studies to be the minimum acceptable for achieving significant consolidation benefits. The high clay content and correspondingly low proportion of sand in the South Fort Meade Mine matrix preclude the use of sand/clay mix waste disposal techniques for the entire site. A combination of sand/clay mix areas (3,512 acres), clay settling areas with a 2:1 sand/clay cap (3,185 acres), graded spoil and overburden fill areas (1,571 acres), sand tailings fill areas (3,020 acres) and conventional clay settling areas (3,737 acres) would have to be utilized to dispose of the wastes. The average dike height for this case would be 35 feet.

Overburden/Clay Mix Case: Since sufficient sand tailings are not available from the matrix to accomplish a 2:1 sand/clay mix over the entire site, overburden sand could be used as an additional source of sand to mix with the waste clay. The overburden would be slurried and pumped to a field washer for screening and washing. The recovered overburden sand would then be pumped to the mixing station where it would be combined with thickened waste clay at a 2:1 sand to clay mixture for final disposal. This waste disposal case would result in sand tailings fill areas (3,020 acres), 2:1 sand/clay mix areas (5,492 acres), above-grade clay settling areas capped with 2:1 sand/clay mix (2,847 acres), below-grade clay settling areas (2,095 acres) and overburden fill areas (1,740 acres). The average dike height for this case would be 38 feet.

Reclamation

Conventional: Mobil's reclamation plan would reclaim the 15,194 acres disturbed by mining as follows: improved pasture (11,413 acres) would be developed on above-grade settling areas and sand tailings fill areas with overburden cap; upland mixed forest (1,271 acres), planted pine (453 acres) and forested stream channel (277 acres) would be developed in sand tailing fill areas with overburden cap; freshwater swamp (478 acres) would be developed in above-grade clay settling areas, and freshwater marsh (1,302 acres) would be developed in below-grade clay settling areas capped with overburden.

Sand/Clay Cap Plan: This plan would reclaim the 15,194-acre disturbed area as follows: improved pasture (11,003 acres) would be developed in above-grade clay settling areas capped with 4:1 sand/clay mix and sand tailings capped with overburden; upland mixed forest (1,451 acres), planted pine (536 acres), and forested stream channel (279 acres) would be developed in sand/tailings capped with overburden; freshwater swamp (504 acres) would be developed in above-grade clay settling areas capped with 4:1 sand/clay mix; and freshwater marsh (1,421 acres) would be developed in below-grade clay settling areas capped with overburden.

Sand/Clay Mix Plan: This plan would reclaim the 15,194-acre disturbed area as follows: improved pasture (10,313 acres) would be developed in above-grade sand/clay mix (2:1) areas, clay settling areas, and sand tailings fill areas capped with overburden; upland mixed forest (1,826 acres), planted pine (431 acres), and forested stream channel (263 acres) would be developed in sand tailings fill areas with overburden; freshwater swamp (746 acres) would be developed in sand/clay mix settling areas and in above-grade and below-grade sand/clay mix (2:1) areas; and freshwater marsh (1,615 acres) would be developed in below-grade clay settling areas partially capped with overburden.

Overburden/Clay Mix Plan: This plan would reclaim the 15,194-acre disturbed area as follows: improved pasture (10,313 acres) would be developed in sand/clay mix areas and sand tailings capped with overburden; upland mixed forest (1,826 acres), planted pine (431 acres), and forested stream channel (263 acres) would be developed in sand tailings capped with overburden; freshwater swamp (746 acres) would be developed in above-grade and below-grade sand/clay mix areas; and freshwater marsh (1,615 acres) would be developed in below-grade clay settling areas partially capped with overburden.

Water Sources

Groundwater: Mobil proposes to utilize three deep wells (approximately 1,000 feet deep) for the primary source of clean water for the flotation process and as makeup water for the recirculation system. The Southwest Florida Water Management District has granted a Consumptive Use Permit (CUP) for the withdrawal of 16.413 mgd of groundwater (15.7 mgd from the lower Floridan Aquifer and 0.713 mgd from the Upper Floridan Aquifer).

Surface Water: The 7-day 10-year low flow in Bowlegs Creek is zero mgd while that in the Peace River is 7.1 mgd. Since this is not sufficient to meet the daily water requirements (16.413 mgd) of the mine, this alternative would require an impoundment be constructed on Bowlegs Creek. This source of water would probably require treatment to upgrade the quality and could require augmentation by groundwater withdrawal.

Plant Siting

Gilshey Branch Site: Mobil proposes to locate the beneficiation plant on the west side of Manley Road approximately two miles north of County Line Road.

Mobil's main objective in siting the plant was to minimize the energy required for matrix transfer by locating at the centroid of matrix pumping.

Other On-Site Locations: The proposed mine site was examined for other potential locations for the beneficiation plant. Objectives followed in attempting to locate other sites were to maximize energy efficiency and minimize disturbance of environmentally sensitive areas.

Water Discharge

Peace River: Under Mobil's proposed action, the clear water discharge would gravity flow into the Peace River by way of a vegetated drainage swale (outfall ditch) located along the railroad route draining to the Peace River. The mining operation would have an intermittent discharge from the clear water pool primarily between the months of May and October. The discharged volume would be directly dependent on local rainfall trends and is expected to be the greatest between June and September, a period when tropical storms are frequent in Florida. During the wet season the normal and maximum discharge volumes would be 9 mgd and 20 mgd, respectively.

Bowlegs Creek: Construction of a pump station and a transfer line from the clear water pool to Bowlegs Creek would be necessary in order to implement the alternative of discharging into Bowlegs Creek.

Product Transport

Railroad: Mobil proposes to transfer the wet phosphate rock produced at South Fort Meade by rail cars to an existing rock drying facility at Nichols, Florida. Mobil would construct a six-mile rail spur from the plant site west to the existing Seaboard Coast Line track. This would also require construction of a bridge across the Peace River and a grade crossing on Mt. Pisgah Road. During full production, 65 rail cars would be pushed from the beneficiation plant to the main track and returned twice each day.

Truck: Product transport by diesel truck could be accomplished during full production with 25-ton capacity trucks making 520 round trips per day from the South Fort Meade Mine site to Nichols.

The No Action Alternative

The no action alternative by EPA would be the denial of an NPDES permit for the proposed project. The effect of permit denial would be to precipitate one of three possible actions on the part of Mobil: (1) termination of the proposed project, (2) indefinite postponement of the proposed project or (3) restructuring of the project to achieve zero discharge.

Termination of the planned project would allow the existing environment to remain undisturbed and the gradual socio-economic and environmental trends would continue as at present.

The project might be postponed for an indefinite time and then successfully pursued by Mobil or another mining company. This might be expected to occur when high grade phosphate reserves are depleted and the resource retained on the Mobil site becomes extremely valuable strategically as well as economically.

If EPA denies the NPDES permit, Mobil could still execute a mining project provided the project could be performed with zero discharge. Under zero discharge conditions, neither an NPDES permit nor an Environmental Impact Statement would be required.

4. EPA's Preferred Alternatives

The alternatives evaluation for the Mobil project is presented in detail in Section 2.0 of the Draft Environmental Impact Statement (DEIS). Based on analyses described in that section, the environmentally preferable alternative, EPA's preferred alternative, and Mobil's proposed action (including mitigating measures presented as part of the proposed action), all coincide with respect to the following project subsystems:

Mining Method (Dragline)
Matrix Transfer (Pipeline)
Processing (Conventional Beneficiation)
Water Sources (Groundwater Withdrawal)
Plant Siting (Gilshey Branch Site)
Water Discharge (Peace River)
Product Transport (Railroad)

However, they differ with respect to the waste disposal and reclamation project plans. The analysis of waste disposal and reclamation alternatives identified the 4:1 sand/clay cap waste disposal case and the corresponding reclamation plan as the environmentally preferable (and therefore EPA's preferred) alternatives. A summary of the evaluation of waste disposal and reclamation alternatives is presented in Table 1.

The EPA preferred alternatives for waste disposal and reclamation have the principal advantages of a lower (by two feet) average dike height, reduced surface radiation levels, improved agronomic properties of the reclaimed soils, establishment of a perched water table about five feet below the surface of the reclaimed sand/clay cap areas (providing a plant growth zone), reduced potential for dam failure because of decreased active settling acreage, seven percent more reclaimed wetlands, and improved land use potential with 4:1 sand/clay mix cap over the clay settling areas due to increased structural stability. Mobil's proposed action for waste disposal and reclamation has the principal advantages of significantly lower energy consumption and the use of a proven technology.

5. Summary of the Environmental Impacts of the Alternatives

In order to make its determination regarding the NPDES permit application for the Mobil project, EPA has developed a comparison between (1) Mobil's proposed action, (2) EPA's preferred alternatives and recommended mitigating measures, and (3) the no action alternative of permit denial by EPA, which could lead to termination of the project, postponement of the project or restructuring of the project to achieve zero discharge. This comparative analysis is presented in Table 2.

TABLE 1

SUMMARY OF WASTE DISPOSAL AND RECLAMATION ALTERNATIVE EVALUATION

Item	Conventional Clay Settling Plan	Sand/Clay Cap Plan	Sand/Clay Mix Plan	Overburden/ Clay Mix Plan
Average Dike Height of Above-Grade Basins (feet)	39	37	35	38
Area of Above-Grade Settling Basins, clay and/or sand/clay mix (acres)	8,170	8,170	8,339	8,339
Area of Above-Grade Clay Settling Basins, (capped or uncapped)	8,170	8,170	4,827	2,847
Area of Above-Grade Clay Settling Basins, without cap (acres)	6,681	0	1,642	0
Areas of Sand Tailings and Overburden Fill (acres)	5,511	5,511	4,760	4,760
Areas of Below-Grade Settling Basins (acres)	1,513	1,513	2,095	2,095
Land Use Potential Rating (Existing = 10)				
a. Structural Stability (Short-Term)	5.1	5.3	4.8	4.9
b. Structural Stability (Long-Term)	5.6	6.4	5.6	5.8
c. Agronomic Value	5.8	7.7	6.7	6.9
Phosphate Resources in Waste Disposal Areas, with clay (ratio of phosphate to waste material)	0.44	0.35	0.24	0.15
Average Soil Radium-226 Levels of Reclaimed Landform (pCi/g)	13.2	8.9	10.9	8.9
Groundwater Consumption (mgd)	16.4	16.4	16.2	16.4+
Dike Failure Risk Rating (4 = Highest Potential)	4	1	3	2
Reclaimed Wetland Areas and Reforested Stream Channels (acres)	2,057	2,204	2,624	2,624
Reclaimed Upland Mixed Forested Areas (acres)	1,271	1,451	1,826	1,825
Energy Consumption for Pumping (10^5 kWh)	1,004	1,252	1,358	2,444
Technology Risks (number of processes or operations not proven)	0	1	1	2
Possibility of Contamination by Seepage from basins to groundwater (4 = Greatest Probability)	1	2	3	4
Reduction in Aquifer Recharge (3 = Greatest Reduction)	3	3	2	1

SOURCE: STUDY DATA

TABLE 2

COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

Discipline	Mobil's Proposed Action	EPA's Preferred Alternatives Including Mitigation Measures	The No Action Alternatives		
			Termination	Postponement	Achieve Zero Discharge
Air Quality, Meteorology, and Noise	Minor increases in fugitive dust emissions and emissions from internal combustion engines; minor emissions of volatile reagents; increased noise levels in the vicinity of operating equipment.	Same as Mobil's proposed action.	No change in meteorology & noise levels; possible air quality changes from other sources.	Same as Mobil's proposed action.	Same as Mobil's proposed action.
Geology and Soils	Disruption of the surface soils and overburden strata; removal of 77 million tons of phosphate rock; increased loading to the Hawthorn of 17 psi; altering of site topography; creation of approximately 7000 A of structurally and agronomically inferior land.	Same as Mobil's proposed action except: increased loading to Hawthorn Formation of 16 psi; alteration to topography not as great (2 ft. less); possible further decrease in level of CS-10; slightly increase future effort to recover phosphate from waste clay; improved structural and agronomic characteristics over the approximately 7000 A of land.	No change in geology; no change in site soils; preservation of 77 million tons of phosphate rock reserves.	Possible increased phosphate recovery and more effective waste disposal, reclamation, and wetlands restoration.	Increased dike heights and water storage capacity; infringement on Bowlegs Creek preserved area; less desirable reclamation plan.
Radiation	Disruption of the natural distribution of radioactive material within the overburden and matrix; increased gamma radiation levels from reclaimed surfaces and increased soil radioactivity.	Same as Mobil's proposed action, except that reclaimed surfaces would have lower overall soil radioactivity and gamma radiation levels.	No change in radiation characteristics of the site.	Same as Mobil's proposed action.	Probable increase in area covered with waste clays - the reclaimed material having the highest radioactivity levels.
Groundwater	Lowering of the piezometric surface of the Lower Floridan Aquifer; lowering of the Surficial Aquifer near active mine pits; 47 percent reduction in natural recharge.	Same as Mobil's proposed action, except that a perched water table would be established about 5 feet below the surface in the reclaimed sand/clay cap areas.	No change in existing groundwater quantity or quality.	Possible reduction in groundwater withdrawals because of more effective dewatering of waste materials resulting from future process development.	Possible reduction in groundwater withdrawals because of increased water storage.
Surface Water	Disruption of surface water flows from the mine site; minor alteration in flows following reclamation; degradation of water charges from the mine water system.	Same as Mobil's proposed action, except that dam failure potential is reduced because of decreased active settling areas and 2-foot lower dike heights.	No change in surface water quantity; surface water quality would be dependent upon future land uses in the area.	Same as Mobil's proposed action.	Eliminaton of surface water quality impacts resulting from discharge from mine water system; increased probability of dike failure impacts.
Biology	Destruction of aquatic and terrestrial habitats on the mine site; aquatic habitat modification due to reduced surface water flows and addition of contaminants; loss of some endangered species individuals; creation of modified habitats following reclamation.	Same as Mobil's proposed action, except 8 percent more wetlands would be reclaimed, improved soils for restoration of vegetation and habitats, and greater protection of listed species.	No change in existing aquatic or terrestrial ecology.	Possibly more effective reclamation.	Elimination of habitat modification resulting from mine water discharge; increased probability of dike failure impacts; probable increase in reclaimed land areas (waste clays) of limited use (pasture).
Human Resources	Retention of existing jobs and development of new jobs with comparatively high income; ad valorem and sales tax revenue for Polk County; severence tax revenue for the state Land Reclamation Trust Fund, and Florida Institute of Phosphate Research; maintain employment for Mobil's Fort Meade personnel.	Same as Mobil's proposed action, except land use potential improved by 4:1 sand/clay cap surface soil over clay settling areas.	Loss of jobs which would be generated by the project; loss of tax revenue for Polk County and the state; and a loss of Mobil's investment.	Potential increased project costs; loss of jobs.	Same as Mobil's proposed action.

6. Identified Issues and Concerns

The DEIS was made available to the Council on Environmental Quality (CEQ) and the public in September of 1981. A joint public hearing to receive comments on the DEIS and the Draft NPDES permit and state certification was held in Bartow, Florida on October 20, 1981. Written comments on the DEIS were received from the following agencies and interested groups:

Federal Agencies

U.S. Department of Agriculture, Forest Service
U.S. Department of Agriculture, Soil Conservation Service
U.S. Department of Health and Human Services, Public Health Service
U.S. Department of Interior, Office of the Secretary, Southeast Region

State and Local Agencies

Florida Department of Environmental Regulation, Bureau of Air Quality Management
Florida Office of the Governor
Florida Department of State
Polk County Board of County Commissioners

Interested Groups or Individuals

Mobil Chemical Company
Sierra Club, Florida Chapter, Polk Group

All questions and comments on the DEIS, written and verbal, are individually addressed in Section 3, Public Participation, of the Final EIS (FEIS). Comments that resulted in changes to EPA's recommendations are discussed in the following paragraphs.

U.S.D.A. Forest Service comments on the DEIS resulted in the expansion of NEPA requirement No. 6 of the Draft NPDES permit by the additional requirement that Mobil coordinate with the District or State Forester regarding the forestry aspects of the reclamation plan.

Although not submitted as a specific comment on the Mobil DEIS, an August 10, 1981 letter to EPA from the Florida State Museum (Appendix, page 6-2) strongly urged that EIS's for mining projects in the Bone Valley district take into account the potential for encountering valuable paleontological resources. EPA proposes to address the concern of the Florida State Museum by adding a permit condition (NEPA requirement No. 13 of the Draft NPDES permit) requiring that Mobil provide access to bona fide researchers and professionals for salvage of paleontological specimens and information.

7. Agency Decision

The Final Areawide Environmental Impact Statement for the Central Florida Phosphate Industry (AEIS), published by EPA in November 1978, established a set of recommendations for future phosphate industry operations in Florida which was determined to be as compatible as practicable with other desired and intended land uses. Section 6 of the Mobil DEIS provided a detailed comparison between Mobil's proposed project, EPA's proposed action and recommended alternatives, and the AEIS recommendations.

The Mobil proposal deviates from the AEIS recommendations in two areas: (1) elimination of conventional above-ground clay-disposal areas and (2) the use of connector wells. However EPA's proposed action, embodied in the Draft NPDES permit, deviates from the AEIS recommendations only with respect to the use of connector wells. While the AEIS recommended the use of connector wells to recharge the Surficial Aquifer, it also noted that the drained water should be monitored to assure that it meets recommended drinking water criteria. In the case of Mobil's proposed project, high gross alpha radiation levels, exceeding drinking water standards, were found in the Surficial Aquifer at the South Fort Meade Mine site. Accordingly, Mobil does not propose to use connector wells to recharge the Floridan Aquifer with groundwater from the Surficial Aquifer, and the use of such wells is neither a condition of Mobil's Southwest Florida Water Management District Consumptive Use Permit nor recommended by EPA in this site-specific EIS.

Therefore, pursuant to provisions of the Clean Water Act of 1977, EPA proposes to issue an NPDES permit to Mobil for their proposed South Fort Meade Mine in Polk County, Florida. The project authorized by the permit is to be the sum of EPA's preferred subsystem alternatives (which is Mobil's proposed action except in the case of waste disposal and reclamation). Further, EPA proposes to impose as permit conditions all the mitigating measures identified as part of Mobil's proposed action (Section 2.1 of the DEIS and Chapter 2 of the Supplemental Information Document [SID]) as well as all the mitigating measures recommended by EPA, including the revisions and additions resulting from comments on the DEIS.

FINAL ENVIRONMENTAL IMPACT STATEMENT

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1.0 PREFACE

In September of 1981, the Environmental Protection Agency published and distributed a Draft Environmental Impact Statement (DEIS) on the proposed Mobil Chemical Company South Fort Meade Mine. The DEIS was written pursuant to the National Environmental Policy Act (NEPA) of 1969. While the DEIS was a complete document, much of the detailed technical information and supporting data were presented in a Supplemental Information Document (SID). The DEIS was distributed to the appropriate Federal, state, and local agencies and to interested individuals. The SID was available for review at a number of locations and was distributed on a limited basis.

This Final Environmental Impact Statement (FEIS) has been prepared to conform with the Council on Environmental Quality (CEQ) regulations (40 CFR Part 6) for implementing NEPA. The essence of the NEPA decision process is contained in the Summary Sheet for the FEIS; it describes the existing problem requiring a decision, summarizes alternatives including mitigative measures and their associated impacts, identifies major concerns and issues, and presents EPA's conclusions and decision.

In an effort to avoid excessive paperwork and costly reproduction, the DEIS text has not been reprinted in the FEIS. The supporting information furnished in the DEIS and its SID should be reviewed and is incorporated herein by reference.

Chapter 2, Errata, is comprised of the corrections to errors and omissions in the DEIS and resource documents as well as all recognized typographical and minor errors.

Chapter 3 contains a description of the public participation program conducted for the EIS. Included in this chapter are copies of written communications submitted to EPA in response to the DEIS, followed by EPA's responses to each individual comment. These are followed by a transcript of the public hearing on the DEIS and EPA responses to the hearing comments.

Chapter 4 of the FEIS lists the agencies and groups to whom the FEIS will be sent for review and comment, and Chapter 5 identifies the individuals involved in its preparation. Chapter 6 of the FEIS contains the Draft NPDES permit. In accordance with CEQ regulations, there will be a 30-day review and comment period following publication of this FEIS and its filing with the CEQ.

2.0 ERRATA

The following are corrections and revisions to the DEIS.

Page	Paragraph	Line	Correction
2-119	3	7	Omit the hyphen in "Following"
3-51	Title	2	Omit "RADON-226"; add "RADIUM-226"
3-72	3	4 & 5	Should read "...A summary of the data from nine test wells sampled on the site is presented..."
3-73	Table 3.4-1		Replace with table from following page.

TABLE 3.4-1

CHEMICAL ANALYSIS OF GROUNDWATER AT THE SOUTH FORT MEADE SITE

Constituents	Florida Groundwater Class 1-B Standards[a]	EPA Drinking Water Standard[b]	Shallow Aquifer[c]	Upper Floridan Aquifer Well UF-10 (Sampled 2-29-80)	Lower Floridan Aquifer Well LF-6 (Sampled 2-15-80)
Conductivity (µmho/cm)	-	-	181	480	1130
pH	-	6.5-8.5 R	5.5-8.5	7.5	7.6
Acidity (CaCo$_3$)	-	-	7	3	13
Total Alkalinity (CaCo$_3$)	-	-	51	156	130
Total Hardness (CaCO$_3$)	-	-	88	204	648
Total Solids	-	-	500	328	966
Total Dissolved Solids (TDS)	-	500 R	134	316	961
Color (PCU)	-	15 R	220	30	5
Fluoride (F)	1.5	1.4-2.4 M	0.72	1.8	0.60
Total Phosphorus	-	-	1.98	0.02	0.02
Ortho Phosphate	-	-	0.49	0.01	0.01
Total Kjeldahl Nitrogen (TKN)	-	-	0.51	0.4	0.3
Ammonia (NH_3)	-	-	0.50	0.33	0.16
Nitrate (NO_3^-)	44	44 M	0.28	0.3	<0.1
Nitrite (NO_2^-)	-	-	<0.01	<0.01	<0.01
Silica (SiO_2^-)	-	-	11.6	26.6	23.3
Sulfate (SO_4^-)	-	250 R	9.4	63.7	530
Total Organic Carbon (TOC)	-	-	12.8	76.2	60.6
Aluminum (Al)	-	-	3.5	0.19	0.29
Arsenic (As)	0.05	0.05 M	<0.05	<0.004	<0.004
Barium (Ba)	1.0	1.0 M	0.01	<0.1	<0.1
Cadmium (Cd)	0.01	0.01 M	<0.01	0.02	0.10
Calcium (Ca)	-	200 R	14.2	37.4	117.6
Chromium (Cr)	0.05	0.05 M	<0.04	<0.05	<0.05
Copper (Cu)	-	1.0 R	<0.03	0.07	0.03
Iron (Fe)	-	0.3 R	2.18	0.98	0.14
Lead (Pb)	0.05	0.05 M	<0.1	<0.02	<0.04
Magnesium (Mg)	-	125 R	4.94	24.1	56
Mercury (Hg)	0.002	0.002 M	<0.001	0.002	0.002
Nickel (Ni)	-	-	<0.06	<0.06	<0.04
Potassium (K)	-	-	1.06	4.9	10.4
Selenium (Se)	0.01	0.01 M	<0.01	<0.004	<0.004
Silver (Ag)	0.05	0.05 M	<0.03	<0.03	<0.03
Sodium (Na)	-	200 R	32.6	24.2	8.0
Strontium (Sr)	-	-	0.68	13.8	66.0
Chloride (Cl)	-	250 R	0.13	17.6	13.1
Pesticide Scan	-	-	ND 2	ND 2	ND 2
Oil and Grease	-	-	-	<0.2	<0.2
Radium -226 (pCi/l)	-	5	<1-14.6	4.4	2.3
Gross Alpha (pCi/l)	15	15	<0.4-97	4.8	34

All constituents are given in mg/l except pH and those noted.

ND - None Detected

[a] FAC Chapter 17-3, includes all groundwater with total dissolved solids less than 10,000 mg/l.

[b] EPA Primary and Secondary Standards (Partial List): M (Mandatory), R (Recommended).

[c] Mean value of 10 samples collected from 9 shallow wells February and September 1980.

SOURCE: STUDY DATA

3.0 PUBLIC PARTICIPATION

The Draft Environmental Impact Statement (DEIS) for Mobil's proposed South Fort Meade Mine was made available to the Council on Environmental Quality and the public in September 1981. The Federal Register (Volume 46, No. 181), dated September 18, 1981, announced the availability of the DEIS, the proposed issuance of an NPDES permit and the 45-day period for public comment on the DEIS. The DEIS was provided to Federal, state, and local agencies as well as concerned individuals, interest groups and public officials.

Notice of the public hearing was published in the Polk County DEMOCRAT and the Tampa TRIBUNE on September 10, 1981. Additionally, copies of the public notice were mailed to individuals on the EPA mailing list and to all appropriate governmental agencies. A copy was also posted in the Bartow Courthouse for thirty days prior to the hearing. The DEIS was available for public review at libraries in Lakeland, Bartow, Wauchula, Sarasota, Bradenton and Tampa, Florida. The public hearing was held October 20, 1981, in Bartow, Florida and was attended by 54 participants.

Written public comments are presented in Section 3.1, Written Comments. The public comments presented at the public hearing are included in Section 3.3, Hearing Transcript. The designations in the right margins of the letters (W-1 thru W-60) identify specific comments for which responses have been prepared. These responses are located in Section 3.2, Responses to Written Comments. The designations in the right margin of the hearing transcript (T-1 and T-2) identify the comments which have been responded to in Section 3.4, Responses to Transcript Comments.

3.1 WRITTEN COMMENTS

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

September 23, 1981

Ms. A. Jean Tolman
EIS Project Officer
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Ms. Tolman:

The Bureau of Air Quality Management has reviewed the Environmental Impact Statement for Mobil Chemical Company's South Fort Meade mine to determine if it will comply with the State's regulations on air pollution.

The proposed mine will be a source of unconfined emissions of particulate and subject to Chapter 17-2.610(3), FAC. This regulation requires the source to use reasonable precautions to minimize emissions of particulate matter. Mobil Chemical plans to pave the roads to the beneficiation plant, maintain vegetative cover on land where mining activity is not imminent, and revegetate disturbed land. This will reduce unconfined emissions. The company stated that natural seeding will revegetate barren areas between the period of mining and reclamation. The Bureau believes Mobil should revegetate the barren areas with grass as soon as the mining activity allows. This will provide a temporary cover until reclamation and help minimize unconfined emissions. W-1

Open burning during land clearing will occur at the mine. Chapter 17-5, FAC, regulates open burning and the State will require the Company to comply with these regulations. W-2

The mine does not appear to have any point sources of air pollution and, if so, will not be required to obtain a State permit to construct an air pollution source. However, they may be subject to other permitting requirements by the Department. Mobil Chemical Company should contact the Department to see what State permits will be required for the mine. W-3

The Bureau of Air Quality has no objection to Mobil Chemical Company being allowed to construct the mine as described in the Environmental Protection Agency's preferred alternative plan.

Sincerely,

Steve Smallwood

Steve Smallwood, P.E.
Chief
Bureau of Air Quality Management

SS:caa

United States
Department of
Agriculture

Forest
Service

Southeastern
Area

1720 Peachtree Road, NW
Atlanta, Georgia 30367

Reply to: 1950 (PP)

Date: September 30, 1981

Ms. A. Jean Tolman, EIS Project Officer
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Ms. Tolman:

We have reviewed the draft EIS for the Mobil Chemical Company South Fort Meade Mine, Polk County, Florida and have the following comments:

1. Overall, the draft EIS, supplemental information document and a good reclamation plan for the disturbed mined areas were well written. The unique presentation, ie. giving the description of the resources followed immediately by the environmental consequences greatly aided the reader in the review process.

2. Mobil Chemical Company plans to develop a phosphate mine and beneficiation plant on approximately 16,288 acres in Polk County. Approximately 15,194 acres of vegetative communities will be affected by the proposed mining plan. Of this area, 2,000 acres of forests and 1,780 acres of wetlands (swamps and marshes) will be disturbed. This loss of natural vegetation on these areas will have a larger negative impact on the terrestrial ecology and wildlife habitat more so than the loss of pasture land. The mining operation will result in the displacement and loss of numerous plant, animal, bird and other wildlife species. The mitigative measures suggested in the reclamation plan are excellent. We support the EPA preferred alternative and reclamation plan. We hope the provisions of the plan are carried out and that careful monitoring is conducted to see that this is done. Although provisions were made in the plan to plant approximately 453 acres of slash pine, we would suggest establishing additional pine plantings on good forest sites, especially in the upland mixed forest and pine flatland sites. Plantations of eucalyptus might also be established. High yielding, well managed pine plantations would produce at least 150 board feet/per acre per year through a rotation. W-4

Some mention should be made of plans to salvage commercial timber and pulpwood in areas that will be clearcut prior to mining operations. W-5

It is suggested that Mobil Chemical contact the District Forester or the State Forester, Florida Division of Forestry to request assistance on the forestry recommendations of the reclamation plan and its implementation. The State Foresters address is Mr. John Bethea, Division of Forestry, Florida Department of Agriculture and Consumer Services, Collins Building, Tallahassee Fl. 32301. W-6

3. Another important concern, which we have, is the effect of the use of large quantities of ground and surface water for the mining and beneficiation process. The presented data shows there will be little affect on water levels and water supplies necessary for the mining process, as well as, the irrigation systems and wells already in operation. However, if more mining operations were started and more wells for irrigation drilled in Polk and surrounding counties, there no doubt would be an adverse effect on the water tables, levels, and aquifers especially in times of low rainfall and drought. Water levels and water quantities and qualities should be constantly monitored to make certain that aquifers are being recharged and not being destroyed when actual mining operations are being conducted. W-7

We appreciate the opportunity to review this draft EIS and look forward to receiving a copy of the final when it is published.

Sincerely,

ROBERT D. RAISCH
Area Director

FLORIDA DEPARTMENT OF STATE
George Firestone
Secretary of State

October 7, 1981

In reply refer to:

Mr. Louis Tesar
Historic Sites Specialist
(904) 487-2333

Ms. A. Jean Tolman, EIS Project Officer
Environmental Protection Agency
Region IV
345 Courtland Street, Northeast
Atlanta, Georgia 30365

Re: September 10, 1981 Letter and Attachments
Cultural Resource Assessment Request
Draft Environmental Impact Statement
Mobil Chemical Company, Fouth Fort Meade Mine
Polk County, Florida

Dear Ms. Tolman:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Procedures for the Protection of Historic and Cultural Properties"), we have reviewed the above referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458, and P.L. 96-515 and Presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

As per our earlier December, 1980 review of the proposed project area, and in consideration of the results of the archaeological and historic site assessment survey of that tract, it is the opinion of this agency that the proposed project is unlikely to affect any sites listed, or eligible for listing, on the National Register of Historic Places, and may proceed without further involvement with this agency.

W-8

If you have any questions concerning our comments, please do not hesitate to contact us.

On behalf of Secretary of State George Firestone, thank you for your interest and cooperation in preserving Florida's historic resources.

Sincerely,

George W. Percy

George W. Percy
Deputy State Historic
Preservation Officer

GWP:Teh

ENVIRONMENTAL IMPACT STATEMENT
BRANCH
RECEIVED
OCT 14 1981
REGION IV · EPA

United States
Department of
Agriculture

Soil
Conservation
Service

P. O. Box 1208
Gainesville, FL 32602

Subject: EVT - Draft Environmental Impact Statements

Date: October 8, 1981

To: A. Jean Tolman, EIS Project Officer
U.S. Environmental Protection Agency - Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

W-9

We have no comments on the Draft Environmental Impact Statement for the Mobile Chemical Company, South Fort Meade Mine, Polk County, Florida.

James W. Mitchell
State Conservationist

cc: Norman Berg, Chief, NO, SCS, Washington, D.C.

The Soil Conservation Service
is an agency of the
Department of Agriculture

BOARD OF COUNTY COMMSSIONERS

POLK COUNTY

TELEPHONE (813) 533-1161
P.O. BOX 60
BARTOW, FLA. 33830

October 19, 1981

Ms. A. Jean Tolman, EIS Project Officer
Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Ms. Tolman:

Attached hereto is a copy of the Resolution as approved by the Board of County Commissioners on September 22, 1981.

The plans submitted by Mobil include EPA's preferred waste disposal and reclamation alternative, which involves a sand clay cap. Mobil has also committed as a condition of its County Development Order to review advances in waste disposal and reclamation technology and incorporate advances that are feasible at a plant scale.

Furthermore, the company has agreed to study wetlands restoration and conduct a pilot project so that the best possible wetlands reclamation can be determined from actual field experience. Finally, the plans proposed by Mobil emphasize the use of tailings fill in areas along the Peace River and Mount Pisgah Road, which are most likely to be in demand for a high variety of uses in the future. Clay disposal areas, which have a more limited fanal land use, are restricted generally to interior portions of the tract and are planned for reclammation to the best possible agricultural uses. This is consistent with local land use planning desires.

Polk County has officially approved this project on the basis of plans consistent with those reviewed and recommended by EPA. We appreciate your consideration of our comments.

W-10

Sincerely,

Jack Simmers

Jack Simmers
Chairman

JS/mb
Attachment

BOARD OF COUNTY COMMISSIONERS

Brenda Taylor
Lakeland, Dist. 1

Frank "Bubba" Smith
Bartow, Dist. 2

Jack Simmers
Winter Haven, Dist. 3

Ernie Caldwell
Haines City, Dist. 4

Royce Ready
Lakeland, Dist. 5

Exhibit A

Legal Description
South Fort Meade Mine
Mobil Chemical Company

Polk County

All in Township 32 S. Range 25E

Section 10	SE 1/4 of SE 1/4
Section 11	SW 1/4 of SW 1/4 NE 1/4 of SW 1/4 that part east of Pisgah Road West 1/2 of SE 1/4 E 1/4 of NE 1/4 of SE 1/4
Section 12	SW 1/4 less Dishong Road S 1/2 of SE 1/4 less Dishong Road NW 1/4 of SE 1/4 that part south of Dishong Road
Section 13	All
Section 14	E 1/2 SW 1/4 less Mt. Pisgah Road W 1/2 of SW 1/4 of NW 1/4
Section 15	E 1/2 E 1/2 of NW 1/4
Section 22	E 1/2 NE 1/4 of SW 1/4 E 1/2 of NW 1/4 that part east of Peace River
Section 23	N 1/2 less Pisgah Road W 1/2 of SW 1/4 less Pisgah Road and less 6 acres in the SW 1/4 adjacent to Pisgah Road NE 1/4 of SE 1/4 N 1/2 of NW1/4 of SE 1/4 N 1/4 of S 1/2 of NW 1/4 of SE 1/4 N 1/2 of NE 1/4 of SW 1/4 less Pisgah Road
Section 24	All
Section 25	All

W-10

Section 26	E 1/2 E 1/4 of S 1/4 of SE 1/4 of SW 1/4 N 1/4 of NE 1/4 of SW 1/4 less Pisgah Road E 3/4 of S 1/2 of N 1/2 of NE 1/4 of SW 1/4 S 1/2 of W 1/4 of S 1/2 of N 1/2 of NE 1/4 of SW 1/4 less Pisgah Road E 1/2 of SE 1/4 of NW 1/4 S 1/2 of SW 1/4 of SE 1/4 of NW 1/4 less Pisgah Road S 1/2 NE 1/4 SW 1/2 SE 1/2 of NE 1/4 of SW 1/4 of SE 1/4 of NW 1/4 S 1/2 of NE 1/4 of NW 1/4 less Pisgah Road N 1/2 of NW 1/4 of NW 1/4 less Pisgah Road W 3/4 of SW 1/4 of NW 1/4 SW 1/4 of SW 1/4 less Pisgah Road N 1/4 of NW 1/4 of SW 1/4 less Pisgah Road W 3/4 of S 1/2 of N 1/2 of NW 1/4 of SW 1/4 N 3/4 of E 1/4 of S 1/2 of N 1/2 of NW 1/4 of SW 1/4 less Pisgah Road. N 1/4 of W 3/4 of S 1/2 of NW 1/4 of SW 1/4 W 1/4 of SW 1/4 of NW 1/4 of SW 1/4 W 3/4 of E 1/2 of Sw 1/4 of NW 1/4 of SW 1/4
Section 27	NE 1/4 N 1/2 of SE 1/4 SE 1/4 of SE 1/4
Section 34	E 1/2 of NE 1/4 E 1/2 of SE 1/4 less County Line Road and Less the E 1/2 of SW 1/4 of SE 1/4 of SE 1/4 of SE 1/4 and Less the SE 1/4 of SE 1/4 of SE 1/4 of SE 1/4 and Less the NE 1/4 of NE 1/4 of SE 1/4 of NE 1/4 of SE 1/4
Section 35	NE 1/4 E 1/2 of NE 1/4 of NW 1/4 less Pisgah Road NW 1/4 of NW 1/4 less NE 1/4 less Pisgah Road N 1/2 of SW 1/4 of NW 1/4 less Pisgah Road W 1/2 of N 1/2 of S 1/2 of SW 1/4 of NW 1/4 S 1/4 of SW 1/4 of NW 1/4 less Pisgah Road SE 1/4 of NW 1/4 N 1/2 of NE 1/4 of SE 1/4 SE 1/4 of SE 1/4 less County Line Road NW 1/4 of SE 1/4 NE 1/4 of SW 1/4 of SE 1/4 NE 1/4 of NW 1/4 of NW 1/4 East 7 acres of S 1/2 of N 1/2 of NE 1/4 of SW 1/4 S 1/4 of NW 1/4 of SW 1/4 less Pisgah Road E 3/4 of N 1/2 of S 1/2 of NW 1/4 of SW 1/4 Less Pisgah Road N 1/2 of NW 1/4 of SW 1/4 less Pisgah Road
Section 36	All less County Line Road

W-10

All in Township 32 S. Range 26 E

Section 3	S 1/4 less SE 1/4 of SE 1/4 of SE 1/4 and Less Lake Buffum Road NE 1/4 of SE 1/4 less Lake Buffum Road S 3/4 of NW 1/4 of SE 1/4 S 1/2 of N 1/4 of NW 1/4 of SE 1/4
Section 4	S 1/2 of SW 1/4 S 1/2 of NW 1/4 of SW 1/4
Section 8	NE 1/4 of NE 1/4 E 1/2 of NW 1/4 of NE 1/4 S 1/2 of E 1/2 of W 1/2 of NW 1/2 of NE 1/2 N 3/4 of SE 1/4 of NE 1/4 NE 1/4 of SW 1/4 of NE 1/4 N 1/2 of SE 1/4 of SW 1/4 of NE 1/4 N 3/4 of E 1/2 of W 1/2 of SW 1/4 of NE 1/4 SE 1/4 of SE 1/4
Section 9	NW 1/4 N 1/2 of NW 1/4 of SW 1/4 NW 1/4 of NE 1/4 of SW 1/4 SW 1/4 of SW 1/4
Section 10	S 1/2 less Lake Buffum Road NW 1/4 S 1/2 of NE 1/4 less Lake Buffum Road NW 1/4 of NE 1/4 less SE 1/4
Section 14	NW 1/4 less Lake Buffum Road
Section 15	N 3/4 of E 1/2 less Lake Buffum Road W 1/2
Section 16	All
Section 17	All
Section 18	All
Section 19	All
Section 20	E 1/2 NE 1/4 of NW 1/4 W 1/4 of W 1/4
Section 21	All

W-10

Section 22	W 1/2 W 1/2 of SE 1/4 SE 1/4 of SE 1/4
Section 27	N 1/2 of NE 1/4 W 1/2
Section 28	N 1/2 SE 1/4 E 1/2 of SW 1/4 SW 1/4 of SW 1/4
Section 29	S 1/2 W 1/2 of NW 1/4 SE 1/4 of NW 1/4
Section 30	All
Section 31	All less County Line Road
Section 32	All less County Line Road
Section 33	All less County Line Road
Section 34	W 1/2 less County Line Road

W-10

A 100.0 foot wide railroad right-of-way easement, 50.0 feet each side of a center-line described as follows:

Commence at the intersection of the Easterly right-of-way of the Seaboard Coastline Railroad and the South boundary of the North one-quarter of Section 33, Township 32 South, Range 25 East, Polk County, Florida, run thence North 07°32'40" East along the said right-of-way, 662.03 feet to the Point of Beginning. Said Point of Beginning being on a curve concave to the Northeast having a radius of 955.37 feet, thence Southeasterly along said curve through a central angle of 51°23'43", an arch distance of 856.98 feet to the South boundary of the North one-quarter of said Section and the end of this description.

and

Commence at the intersection of the Easterly right-of-way of the Seaboard Coastline Railroad and the South boundary of the North one-quarter of Section 33, Township 32 South, Range 25 East, Polk County, Florida, run thence North 89°49'17" East along the South boundary of the North one-quarter, 595.05 feet to the Point of Beginning. Said Point of Beginning being on a curve concave to the Northeast having a radius of 955.37 feet, thence Southeasterly along said curve through a central angle of 16°53'19", an arc distance of 281.61 feet to the P.T. of said curve, thence South 80°24'49" East, 947.42 feet to the P.C. of a curve concave to the North having a radius of 955.37 feet, thence Southeasterly along said curve through a central angle of 03°32'33", an arc distance of 59.06 feet to the East boundary of the Southwest quarter of the Northeast quarter of said Section 33 and the end of this description.

and

Commence at the Northwest corner of the Southeast quarter of the Northeast quarter of Section 33, Township 32 South, Range 25 East, Polk County, Florida, run thence South 00°15'19" East along the West boundary of the Southeast quarter of the Northeast quarter, 256.60 feet to the Point of Beginning. Said Point of Beginning being on a curve concave to the North having a radius of 955.37 feet, thence Easterly along said curve through a central angle of 17°54'28", an arc distance of 298.60 feet to the P.T. of said curve, thence North 78°08'10" East, 852.34 feet to the P.C. of a curve concave to the South having a radius of 955.37 feet, thence Easterly along said curve through a central angle of 11°38'46", an arc distance of 194.19 feet to the P.T. of said curve and the end of this description, being located South 00°17'48" East, 50.0 feet from the Northeast corner of the Southeast quarter of the Northeast quarter of said Section 33.

W-10

and

Commence at the Northwest corner of the Southwest quarter of the Northwest quarter of Section 34, Township 32 South, Range 25 East, Polk County, Florida, run thence South 00°17'48" East along the West boundary of the Southwest quarter of the Northwest quarter, 50.0 feet to the Point of Beginning, run thence North 89°46'56" East, parallel with the North boundary of the Southwest quarter of the Northwest quarter and the North boundary of the Southeast quarter of the Northwest quarter, 2646.56 feet to a point South 00°18'24" East, 50.0 feet from the Northeast corner of the Southeast quarter of the Northwest quarter of said Section 34 and the end of this description.

West 1/2 of East 1/2 of Section 34,

and

Southwest 1/4 of Southeast 1/4 of Section 27,

and

East 1/2 of Northwest 1/4 of Section 27.

and

Southeast 1/4 of Southwest 1/4 of Section 22, all lying in Township 32 South, Range 25 East, Polk County, Florida.

The West 1/2 of the East 1/2. east of Peace River. Section 34. The Southwest 1/4 of Southeast 1/4, Section 27. That part of the South 1/2 of Southwest 1/4 of Northwest 1/4, west of Mt. Pisgah Road in Section 35 of approximately 7.5 acres.

All in Township 32 South, Range 25 East, Polk County, Florida.

South 3/4 of East 1/2 of West 1/2 of Section 20 and Northeast 1/4 of Northwest 1/4 and Northeast 1/4 of Section 29, and Northwest 1/4 of Southwest 1/4 of Section 28, all being in Township 32 South, Range 26 East.

All in Township 32 South, Range 25 East, Polk County, Florida. described as follows:

Section 26 - W 1/2 of SE 1/4 of SW 1/4 and the north 12 acres of E 1/2 SE 1/4 SW 1/4 and the N 3/4 of W 1/2 of SE 1/4 of NW 1/4.

W-10

The S 1/2 of the NW 1/4 of the NW 1/4, Section 26, Township 32 South, Range 25 East, Polk County, Florida.

South 15 acres of NW 1/4 of SE 1/4
Lying in Section 26, Township 32 South, Range 25 East, Polk County, Florida.

RESOLUTION

A Resolution of the Board of County Commissioners of Polk County, Florida, issuing a development order of approval with conditions for an application for approval of a development of regional impact known as the South Fort Meade Phosphate Mine, submitted by Mobil Chemical Company; setting forth findings of fact, conclusions of law, and conditions of approval pursuant to Chapter 380, Florida Statutes.

WHEREAS, the Polk County Board of County Commissioners, hereafter referred to as "the Board," as the governing body of local government having jurisdiction pursuant to Section 380.06, Florida Statutes, is authorized and empowered to consider applications for a development of regional impact; and

WHEREAS, the Mobil Chemical Company, hereafter referred to as "Mobil," has filed the following documents with the Board pursuant to Section 380.06, F.S.:

1. An Application for Development Approval, hereafter referred to as "the Application," dated May 4, 1981 seeking approval of a phosphate mine development of regional impact;
2. Amendments to the Polk County mine site plan, hereafter referred to as "Amendments," which conform the original site plan to the above-referenced application, which amendments are dated August 28, 1981.

W-10

WHEREAS, the Board held a duly noticed public hearing on said application on September 15, 1981 as required by Section 380.06, Florida Statutes; and

WHEREAS, Mobil, other units of Government, local agencies and interested citizens were afforded the opportunity to participate in all proceedings before the Board relating to the application and were provided the opportunity to present witnesses, evidence and argument on all issues, conduct cross-examination, and submit rebuttal evidence; and

WHEREAS, the Board has reviewed all of the above referenced evidence.

NOW, THEREFORE BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF POLK COUNTY, FLORIDA, THAT THE APPLICATION AND AMENDMENTS SUBMITTED BY MOBIL CHEMICAL COMPANY ARE HEREBY APPROVED WITH CONDITIONS, SAID APPROVAL BEING BASED UPON THE FOLLOWING FINDINGS OF FACT AND CONCLUSIONS OF LAW.

I. FINDINGS OF FACT

A. Mobil submitted the application to the Board on May 12, 1981, said application being incorporated and made a part of this resolution by reference.

B. The South Fort Meade Mine involves approximately 16,288 acres which are currently owned or controlled by Mobil. A complete legal description is attached as exhibit A. Recovery of the reserves on this tract will require the mining or disturbance of approximately 15,194 acres, with the remaining 1,094 acres left undisturbed primarily due to environmental considerations.

C. The Application also involves the construction of ore processing and mine facilities. The first phase of mining is scheduled to begin approximately two years after the initiation of construction at an annual rate of about 1.7 million tons of product. The second phase of construction will result in production capacity of approximately 3.4 million tons per year.

D. The South Fort Meade Mine will replace production currently being provided by Mobil's Fort Meade mine, which is expected to be mined out in the near future.

E. The proposed development is not located in an area of critical state concern as designated pursuant to Section 380.05, F.S.

F. Florida has adopted a statewide comprehensive Plan.

G. The Board has adopted a Comprehensive Plan for Polk County pursuant to Section 163.3161, F.S., which is applicable to the development site.

H. The property encompassed by the proposed development is presently zoned Rural Conservation (RC) and no specific rezoning is required for mining, provided that all other local permits, including an up-to-date mine site plan, are approved by the Board.

I. The proposed development is a temporary land use and is compatible with surrounding adjacent land uses, including citrus production and other agricultural activities.

J. Subject to the conditions provided herein, the proposed development will not have an unfavorable impact on the environment and natural resources of the region.

K. The proposed development will have a favorable impact on the economy of the region.

L. The proposed development will not significantly burden the existing public facilities of the region, including transportation facilities.

M. The proposed development will not adversely affect the ability of people to find adequate housing reasonably accessible to their place of employment.

N. Existing sources of energy are sufficient and will not be unduly burdened by the proposed development.

O. Waste disposal and land reclamation technologies have been thoroughly evaluated by Mobil and considered by the Board. Specifically, the Board finds that:

   1. The waste disposal and reclamation plan proposed by Mobil incorporates advanced technology in the form of a sand/clay cap, which will promote reclamation of clay storage areas and provide improved agronomic properties of the affected reclaimed areas;

   2. The configuration of tailings fill areas proposed by Mobil provides a desirable buffer for the Peace River and Bowlegs Creek;

   3. The tailings fill and overburden fill areas provide for a variety of ultimate land uses and have a more positive ad valorem tax impact than those areas containing clay wastes;

   4. There is insufficient sand available for a full-depth sand/clay mix in all clay storage areas;

   5. Other waste disposal technologies which were considered by Mobil, such as the use of flocculents, have not been demonstrated as feasible or beneficial at a plant scale;

   6. Disregarding ultimate land use and related land planning concepts, some above-grade settling could be reduced by distribution of waste clays over a greater portion of the tract, however, this distribution of clays is inconsistent with local land use planning and is specifically rejected by Polk County.

W-10

7. One of the proposed clay settling areas is located within the 100 year floodplain of Bowlegs Creek and presents a potential for increased downstream flooding.

8. Mobil proposes to reclaim approximately 1,421 acres of non-forested wetlands (freshwater marsh) but has not prepared any specific revegetation plans. The application states that Mobil will utilize the best state of the art technology available.

P. The property encompassed by the proposed development contains several "out parcels" not owned or controlled by Mobil at the time the application was made. These parcels are located within the interior of the South Fort Meade Mine. Although the application does not include the mining of these "out parcels," Mobil does plan to purchase and mine at least one of these parcels. Inclusion of these parcels into the mining plan and subsequent reclamation will not result in any increased regional impacts.

Q. The data and information contained within the application were sufficient for the Board to perform the impact review required by Section 380.06, F.S.

R. On September 15, 1981 the Board convened the required public hearing on the application, heard testimony and received evidence and documents pertaining to the application including the report and recommendation of the Central Florida Regional Planning Council and the report and recommendation of the Polk County Planning Department.

II. CONCLUSIONS OF LAW

A. The Boards' review of the application has been conducted pursuant to and complied with the provisions of Chapter 380, F.S.

B. The application as submitted, complies with the requirements of Section 380.06, F.S. and Chapter 22-F, Florida Administrative Code.

C. The development, as modified by the conditions herein, is consistent with the report and recommendation of the Central Florida Regional Planning Council.

D. The development, as modified by the conditions herein, is consistent with the Polk County Comprehensive Plan and local land development regulations.

E. The State Comprehensive Plan is advisory and is not inconsistent with the proposed development.

F. All development activities described in the application shall be subject to the terms of this development order and shall not be subject to future development of regional impact review pursuant to Section 380.06, F.S. unless the Board determines that any proposed changes to the development constitute a substantial deviation pursuant to Section 380.06(17), F.S. and the conditions herein.

G. The provisions of this development order shall not be construed as a waiver or exception of any rule, regulation, or ordinance of Polk County and, therefore, any further review and approval required by Polk County shall be subject to all such applicable rules, regulations or ordinances in effect at the time of review.

H. The annual report of mining operations required by Polk County regulations is an appropriate vehicle for monitoring the development, as required by Section 380.06(14)(c)(1) and further is an appropriate vehicle for the annual report required by Section 380.06(14)(c)(3), and shall be utilized to satisfy those provisions of Chapter 380, F.S.

I. The Polk County Code Enforcement Director shall be the local official responsible for assuring compliance with this development order.

W-10

BE IF FURTHER RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF POLK COUNTY, FLORIDA THAT THE APPLICATION IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

III. CONDITIONS

A. Location of Above Grade Clay Settling Areas

No above grade clay settling areas shall be allowed within the 100 year floodplain of Bowlegs Creek.

B. Above Grade Storage Areas

Mobil Chemical Company will adopt advances in Technology concerning waste disposal which are feasible on a plant scale and would result in a reduction of above grade storage of clay. Mobil will review advances in technology which are feasible on a plant scale and address their applicability in their annual report of the South Fort Meade Mine Development of Regional Impact.

C. Reclamation of Freshwater Marsh

Prior to the commencement of the reclamation of 1,421 acres of non-forested wetlands, Mobil Chemical Company shall design and conduct a scientifically defensible study. This study shall evaluate water quality and plant and animal species diversity of freshwater marshes created using such techniques as natural revegetation, the transplanting of desired vegetation, and the utilization of substrate from existing marshes as a seed source. The results of this study shall be utitilized in determining Mobil's freshwater marsh reclamation technology.

D. Substantial Deviations

1. Any proposal by Mobil to mine within the 25 year floodplain of Bowlegs Creek shall be considered by the Board as a substantial deviation.
2. Any proposed changes to the application which involve the following shall be submitted to the Board for a determination if such change constitutes a substantial deviation and, therefore, requiring further review pursuant to Section 380.06, F.S.
    a. Any increase in the area to be mined except for any "out parcels" located within the Mobil Tract.
    b. Any increase in the above grade clay settling areas except for waste clay disposal resulting from the mining of "out parcels", provided such disposal and reclamation is performed in the same methodology used for the South Fort Meade Mine and otherwise complies with the conditions of this development order.
    c. Any change which would result in an increase in the regional impacts.
3. The following changes shall be presumed not to be substantial deviations requiring further review.
    a. Any decrease in the area used for above grade clay settling.
    b. A decrease in the regional impact of the development.
    c. A change required by permit conditions or requirements imposed by the Department of Environmental Regulation, the Department of Natural Resources, the Southwest Florida Water Management District, or any of their successor agencies or by any appropriate federal regulatory agency.

W-10

E. Polk County Mining Regulation

This Development Order approves conceptual mining and reclamation plans. Actual mining operation implementing these plans shall comply with the Polk County mining ordinance in effect at the time of mining. This condition shall not restrict or preclude Mobil from participating fully in amendments to the Polk County mining ordinance or adoption of new ordinances, or otherwise seek relief from regulations imposed by the Board.

F. Annual Report

Mobil shall submit the annual report of mining operations as required by Polk County regulations to the Polk County Code Enforcement Director, the Central Florida Regional Planning Council, the state planning agency, and all affected permit agencies pursuant to Section 380.06(16), F.S. on or before the fifteenth day of February of each year, beginning February 15, 1983.

G. Expiration

This development order shall take effect upon approval and shall remain in effect for the life of the mine, not to exceed forty (40) years.

H. Recording of Notice of Adoption

Notice of the adoption of this development order shall be recorded by Mobil in accordance with the provisions of Section 380.06(14)(d), F.S. within 15 days after its adoption.

DULY PASSED AND ADOPTED BY THE BOARD OF COUNTY COMMISSIONERS OF POLK COUNTY, FLORIDA, THIS 22nd DAY OF September, 1981.

W-10

Board of County Commissioners of Polk County

By: Frank B.
Chairman

ATTEST:

Barbara Weldon
Deputy Clerk

E. D. "Bud" Dixon, Clerk

Mobil Chemical Company

PHOSPHORUS DIVISION

P.O. BOX 311
NICHOLS, FLORIDA 33863
TELEPHONE (813) 425-3011

October 22, 1981

Ms. A. Jean Tolman
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Ms. Tolman:

Mobil Chemical Company
South Fort Meade Mine (Polk County, Florida)

Mobil Chemical Company respectfully submits its comments on the Draft Environmental Impact Statement (DEIS) prepared for the proposed South Fort Meade Mine. Mobil supports the overall analyses, conclusions and recommendations set forth in the DEIS. We realize that it represents many months of intensive effort by numerous expert consultants and EPA. The document presents a clear discussion of phosphate mining, subsystem alternatives, and mitigation measures. This presentation of material enables the public to have a better understanding and awareness of the industry.

Mobil does express concern over the NPDES condition that the sand/clay cap method of waste disposal and reclamation must be utilized. The sand/clay cap method has never been practiced in full scale in the mining industry. Based on the paper evaluation the sand/clay cap plan appears to be feasible and Mobil is committed to a full field scale program; however, as with any new procedure there are always unforeseen problems and the risks and costs may be greater than we now envision. Mobil will invest considerable funds to employ this technique. However, if the sand/clay cap disposal technique should fail Mobil would then request that EPA reconsider permit condition B1.

W-11

The preparation of the EIS has already taken several years and delayed Mobil's development schedules. Mobil desires to continue in this process as expeditiously as possible within the requirements of the law. Any problems or conflicts must be immediately attended to and resolved with Mobil's commitment to being responsive to the needs of EPA to bring this process to a timely end point. Mobil urges the Agency to move with reasonable speed to respond to public comments, prepare the final EIS and issue the final NPDES permit for the discharge subject to appropriate conditions. Mobil is committed to compliance with all applicable Federal, State and local environmental and land use requirements.

Sincerely yours,

R. E. Schulz

R. E. Schulz

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OCT 26 1981
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ec

DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service

Centers for Disease Control
Atlanta, Georgia 30333
(404) 262-6649

October 28, 1981

Ms. A. Jean Tolman
EIS Project Officer
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Ms. Tolman:

We have reviewed the Draft Environmental Impact Statement for the Proposed Issuance of a New Source National Pollutant Discharge Elimination System (NPDES) Permit to the Mobil Chemical Company for the South Fort Meade Mine in Polk County, Florida. We are responding on behalf of the Public Health Service and are offering the following comments for your consideration in preparing the Final EIS.

With some exceptions, it appears that the EIS has satisfactorily addressed the environmental impacts of the proposed project. We believe the EIS should still address: the project's effects upon local vector populations and control efforts, cumulative effect of groundwater withdrawals from this mine and any other existing or proposed mining activities in the area, and the status and effectiveness of State and Federal legislation and local planning efforts to prohibit noncompatible development of reclaimed, debris, or unmined lands producing radiation (radon and radon progeny concentrations and gamma exposure levels) in excess of applicable State and Federal guidelines. W-12,13,&14

Disposal basins, ponds, "shallow depressions," and overflow swales should be designed and managed to prevent the increase of any vector populations that have the potential to cause vectorborne disease or nuisance problems. The capability of local health authorities and mining personnel to detect and prevent excessive onsite breeding of problem vectors should be discussed. Consideration should be given to incorporating the above recommendation on vector management and control as a permit condition. W-12

Under either Mobil's reclamation plan or EPA's preferred reclamation plan, a considerable portion of the reclaimed Mobil site will still exceed the recommended gamma exposure level limits and indoor radon working level (WL) concentrations. Even though residential development of reclaimed lands is not planned or anticipated, special measures must still be taken to assure compatible use of these reclaimed lands in the future. Optimally, all reclaimed lands should be in compliance with applicable State and Federal radiation guidelines and/or standards before being sold or transferred by the applicant. Consideration should be given to placing a deed restriction on the reclaimed lands that requires: (1) the property to be in compliance W-14 with applicable State and Federal radiation standards before any structures can be constructed or (2) the use of special structural design features to permit compliance with applicable standards.

Will Mobil's proposed project provide for recirculation of waters recovered from slimes and waste clays? While this is a recommendation of the areawide EIS, it does not appear that the disposition of water from clay disposal (Table 2.1-3 Mine Water Balance) accounts for any recirculation of decanted waters except for "waste clay ore water (non-supply)." Since substantial quantities of water (11.6 mgd) would be entrained in the waste clays, has any consideration been given to implementing measures to increase the solids concentrations for faster recovery of entrained waters? W-15

The potential safety hazards of the proposed project activities and facilities, such as the waste clay disposal areas, should be discussed. Will all unsafe areas be fenced and posted? W-16

We appreciate the opportunity to review this Draft EIS. Please send us one copy of the Final EIS when it becomes available. Should you have any questions regarding our comments, please call Robert Kay of my staff at FTS 236-6649.

Sincerely yours,

for Linda W. Anderson
Frank S. Lisella, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Services Division
Center for Environmental Health

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REGION IV - EPA

203 Lake Pansy Drive
Winter Haven, Florida
33880

29 October 1981

Ms. A. Jean Tolman
EIS Project Officer
Environmental Protection Agency
Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Dear Ms. Tolman:

Enclosed are comments in regard to the Mobil Chemical Company, South Fort Meade Mine, Polk County, Florida application for NPDES permit and Draft EIS. The presentation of the company case to permit conventional mining with conventional waste clay (slime) ponds represents a potential degradation to the econ-systems of the area and further irreparable damage to the flood plain and downstream activities of the Pease River. W-17

W-18 The technology for waste clay disposal without the creation of huge above grade impoundments has now been accepted as an industry practice inthis part of the state and should be adhered to by all new mining operations. The failure to accept new methods only represents a further diminution of the resuces available for use by the citizens of this region. If new technology is not to be used then the burden of proof of why not should rest with the company to establish that both the decision to use older less favorable processes is in fact economically necessary for the good of the country and that the harm which this does after developing alternative processes to mitigate impacts do not due harm over and above that benefit to be gained by the activity for which permits are being requested.

W-19 Accrodingly it is respectfully requested that the company be asked to submit a new EIS describing the use of presently accepted best available practices or conclusively prove that the methods selected are in the best interests of this region and the people therein. Accordingly it is further requested that no NPDES permit be issued for the South Fort Meade Mine until such time as all parties concerned are assured that permitting this conventional process would be only for this mine and not be a precedent setting decision for future mines in the Bone Phosphate Valley.

Sincerely yours,

Richard

Richard L. Coleman
Chairman, Polk Group
Florida Chapter
Sierra Club

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Comments on Draft Envirnomental Impact Statement
Mobil Chemical Company, South Fort
Meade Mine, Polk County,Florida

The proposed South Fort Meade Mine is planned on 16,288 acres owned and controlled by Mobil Chemical Company east of the Peace River in southwest Polk County. Of this land 15,194 acres are proposed for disturbance. Of this disturbed area 13,340 acres are planned for actual mining. Of this mined area 9,683 acres are planned for conventional clay settling areas. This settling pnd area for slimes would comprise 72.6% of the mined land and 61% of the disturbed area. The company has made a case for conventional limes settling areas due to the matrix composition percentages of slimes, phosphates and clays.

Conventional settling areas are already the bane of Polk County and the earlier mined areas of all the counties in the phosphate district where mining has been dine since the advent of the flotation process in the late forties as a commonly accepted practice. Of all the mined land to date over tow thirds of the land is in these slime ponds which defy so far the use of the land for other purposes. Although mining is claimed as a "temporary use of the land" this use of the word temporary seems to be in a geologists' sense of millions of years and eons of development. Since the land covered with limes storage has not been used in the lifetimes of the men who did the mining and since this practice has denied the use of the land for either economically viable purposes of for the reestabilshment of viable eco-systems which would benefit the disturbed areas then for all intents and purposes the proposal of Mobil's to turn 72.6% of the mined land into slime ponds represents a permanent use of these areas along the Peace River for the foreseeable future. The tax structure of the Polk County system allows these acres to be taxed at a very low rate of $50 per year assessed value and thus no real economic incentive exists for the company to do anything differently than what they have proposed for thier benefit but to the detriment of the region. W-18

There is continuing research into better waste clay disposal methods which would do away with slime ponds other than the initial pond. Research has shown that conventional ponds create a crust of about 38% solids within three years and that the body below the crust retains about 16-17% solids and does not thicken further due to the closeout of evaporation routes and the sealing of the dikes against the clay plates giving up moisture by fine particles creeping into the sand containments and forming a virtually impenetrable boundary for the escape of water. Knowing these facts about conventional slime ponds there is no need to perpetuate their creation by approving of a proposal like the one Mobil has here advanced. If there is sufficient matrix constituency to preclude the use of present sand/clay mix technology then pilot efforts should be initiated to determine the best methods for eliminating the conventional ponds from the Mobil site and when those methods are found then mining could be permitted ceteris parabus.

Some regional counties have already eliminated the use of conventional settling ponds from any mining proposals in their areas. The only exception is the allowance of one initial settling pond for the life of the mine for thickening of the clays to prepare for the mixing with sand tailings. Polk County does not enforce this new technologically feasible position and this becomes the only county in the state which allows mining to proceed on the basis of outdated technology and methods. This procedure works against the economics and well-being of the region and the citizens of the area and the county. In this Mobil site the impacts are even more telling due to the proximity to the Peace River and the effects on the tributaries and the eco-systems which cannot be restored due to the lack of incentive on the part of the county and the company to proceed in a manner which would ultimately benefit the county by having useable reclaimed land on which the taxes could be collected and for the economic benefit of the citizens who would have a functioning area which would support future activity in lieu of being left fallow for several generations while the land tried to reconstitute itself into some useable form.

Since all of the recently permitted new mines have been subject to this provision of sand/clay mixing this mine should be handled in the same way. If further effort is needed on the part of the company to make assurances that the process will work then they should be given that time to ascertain that and then resubmit their proposal. If they cannot use the latest technology then they should not be permitted to mine until they have mastered it. If they are either unalbe or unwilling to mine in accordance with the best available preactices then someone else shoud be given the oppostunity to operate a mine on the property. At any rate no mining should be allowed on the property until assurances are received from the miner that conventional slime ponds will not be used and that modern technology will be employed that is now known and that which may become available over the life of the mine will be incorporated in the operations.

W-18

The company argument about proportion of clays to sand in the matrix are more meaningful if the constituent parts are known. The relative amounts of apatite versus the amounts of atapulgite and montmorilonite are importatnt to any meaningful analysis of whether or not to use sand/clay mix process. Until this information is supplied the decision to go with conventional settling ponds would appear to be premature.

STATE OF FLORIDA

Office of the Governor

THE CAPITOL

TALLAHASSEE 32304

BOB GRAHAM

GOVERNOR

October 29, 1981

W-20 (See W-34 through W-60)

Ms. A. Jean Tolman
EIS Project Officer
Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Jean:

Reference our telephone discussion of today regarding the draft environmental impact statements for Mississippi and Mobile Chemical. As a result of increasing workloads and the necessity of responding to a variety of pressing issues, we request that your agency grant us an extension until November 13. We plan to have our response to you on these EISs by this date as the Deparment of Environmental Regulation, the lead agency, assures me that they will be able to conform with this new deadline.

Thank you very much for your consideration.

Sincerely,

Walter O. Kolb
Sr. Governmental Analyst

WK/mew

cc: John Outland

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United States Department of the Interior

OFFICE OF THE SECRETARY

Southeast Region / Suite 1412 / Atlanta, Ga. 30303
Richard B. Russell Federal Building
75 Spring Street, S. W.

ER 81/1931

November 2, 1981

Ms. A. Jean Tolman
EIS Project Officer
Environmental Protection Agency,
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Ms. Tolman:

The Department of the Interior has reviewed the draft environmental statement for the Mobil Chemical Company, South Fort Meade Mine, Polk County, Florida, and offers the following comments for your consideration:

General Comments

We find the draft statement to be rather comprehensive but note some mistakes in the analysis and discussion of wetlands and wildlife resources.

Specific Comments

Page 2-74. Paragraph 3. Section 2.6.1. Reclamation Alternatives. Specific marsh and swamp reclamation plans should be submitted at the beginning of the project. This should be accomplished so that the environmental agencies and conservation organizations will know what to expect of Mobil. Also, Mobil will know what it must accomplish at the end of the mining operations. It should also be understood by Mobil that the State may require 50 percent herbaceous cover of nonforested wetlands in the wetlands reclamation plan but the Federal requirement may differ significantly. Since Mobil believes that future reclamation techniques will differ from those used presently, the reclamation plan should contain a stipulation that: "this will be the reclamation procedure unless new and better procedures for the establishment of wetlands and swamps are established prior to the onset of reclamation." W-21

Page 2-76. Paragraph 1. Section 2.6.1 Reclamation Alternatives. Intense cattle grazing is not compatible with wildlife production after reclamation. The paragraph should indicate that, with eventual cattle use, any benefits to the wildlife will be greatly reduced. W-22

Page 2-113. Section 2.8.1.2. Environmental Consideration. Environmental Disadvantages. The environmental disadvantages of not mining the phosphate must be explained. W-23

Page 2-115. Section 2.9.1.2. Environmental Considerations. Environmental Disadvantages. Mass loadings of nutrients to the Peace River will be increased by this action. Mass loadings are as important as nutrient concentrations and may adversely impact the biota. Therefore, the following statement should be included in this paragraph: "The mass discharges of pollutant constituents could adversely affect the water quality and biota of the river." W-24

Page 2-119. Paragraph 2. Section 2.11.2. Biological Resources. The proposed monitoring procedures should be more detailed at this time. If there are reasons for altering these procedures in the future, then they may be changed at that time. The procedures should be more specific so that Mobil and the concerned agencies know what to expect as a result of the wetland destruction and the removal of the phosphate. The following items should be added to the monitoring: W-25

1. Comparison, based upon diversity and similarity indices, of the restored wetlands vegetation to premining wetlands of the same type.
2. Diversity and similarity indices computation for macroinvertebrates in the reclaimed areas.
3. Water quality sampling.

Long-term monitoring should continue on all three wetland areas to determine success and feasibility of reclamation techniques in that situation. These reclamation practices are new. Therefore, it is not possible to assume success by studying a single area.

These recommendations are made because the wetlands on the area will be eliminated. Specific guidelines and assurances should be built in to assure that the wetlands and fish and wildlife resources that are going to be reestablished are as good as or better than those which existed prior to mining.

Page 3-74. Paragraph 1. Section 3.4.1.3.3. Lower Floridan Aquifer. It is stated on Page 3-74 that Table 3.4-1 is to show the results of chemical analysis of the water collected at the end of a 10-day pumping test of the Lower Floridan Aquifer. Apparently this reference should be either to Table 6-10 of the supplemental document or to an omitted table. W-26

Additionally, the lists of aquifer data on pages 3-69, 3-71 and 3-72 of the statement should include the storativity values determined for the aquifers beneath the site. Values in the literature range from 0.003 for the Estech Duette mine about 10 miles southwest of the South Fort Meade Mine site (Table 4.7-A of the draft statement for the Estech General Chemicals Corporation Duette Mine, Manatee County, Florida) to 0.00003 for the Desota County locations referred to on Page 3-71; the latter are about 30 miles or more southeast of the South Fort Meade site (Wilson, W.E., 1977, Groundwater resources of DeSota and Hardee Counties, Florida: Florida Bureau of Geology Report of Investigations No. 83, p. 41, 90). Thus, the site values are significant for impact assessment. W-27

Page 3-139, Line 6. Section 3.6.2.2.1. Mining Method Alternatives. There needs to be a statement as to whether or not the fill will be removed from Bowlegs Creek and swamp species planted following use. W-28

Page 3-139. Paragraph 1. Section 3.6.2.2.1. Mining Method Alternatives. Adverse impacts of the dragline crossing should include a statement that its construction will eliminate productivity at and adjacent to the fill site. W-29

Page 4-4. Section 4.6.1. Biology Short-Term. This section leaves the impression that the animals that migrate will survive in the adjacent habitat. This should be changed to read like that on Page 3-136, Section 3.6.2.2.1, which states that the project will most likely result in a net loss of faunal resources. W-30

This section also lacks a discussion of the loss of productivity of the wetlands that will result from dewatering and mining. The final document should discuss productivity that will be lost from the time mining begins until restoration is complete. This loss may be a few years for some wetlands but more than 20 for others. W-31

Page 4-4. Section 4.6.2. Biology Long-Term. There should be a discussion of the change in the vegetation mosaic from premining to the post-mining configuration. Elevated wetlands provide feeding and breeding areas for birds and amphibians. The early drying of these areas fills a specific need in the natural environment. The proposed reclamation plan eliminates these areas and creates a more homogeneous area. A habitat diversity measure should be used to express this difference between the pre and post-mining communities. W-32

Summary Comments

The draft statement does not present sufficient discussion of mitigation and biological impacts. Accordingly, the comments on this draft statement do not in any way preclude additional and separate evaluation and comments by the Fish and Wildlife Service, pursuant to the Fish and Wildlife Coordination Act, since project implementation will require a Federal permit pursuant to the Federal Water Pollution Control Act, as amended. In the review of the application for such a permit, the Fish and Wildlife Service may concur, with or without stipulations, or object to the proposed work, depending on the magnitude of project effects which may be identified and evident at that time on wildlife resources. W-33

In closing, we are encouraged that a meeting between representatives of the Mobil and Estech Chemical Corporations, and agencies responsible for actions that may affect wildlife resources, will be held on November 9, 1981, in Tallahassee. Such a meeting will, hopefully, help to resolve the very serious reservations we have about the proposed mining program. We hope these comments will be helpful to you.

Sincerely yours,

James H. Lee

James Lee
Regional Environmental Coordinator

ENVIRONMENTAL IMPACT STATEMENT
BRANCH
RECEIVED
NOV 03 1981
REGION IV - EPA

STATE OF FLORIDA
Office of the Governor
THE CAPITOL
TALLAHASSEE 32301

BOB GRAHAM
GOVERNOR

November 12, 1981

Mrs. A. Jean Tolman
EIS Project Officer
Environmental Protection Agency
Region IV
345 Courtland Street, NE
Atlanta, GA 30365

Dear Ms. Tolman:

This office, functioning as the state planning and development clearinghouse, pursuant to your request, has reviewed and coordinated a state agency review of the Draft Environmental Impact Statements for Mississippi Chemical Corporation, Phosphate Mine, Hardee County, SAI #FL8109010351E and Mobil Chemical Company, South Fort Meade Phosphate Mine, Polk County, SAI #FL8109230441E. Attached for your consideration are comments and information regarding these proposals from the Departments of Environmental Regulation, State, Veterans and Community Affairs and the Florida Game and Fresh Water Fish Commission. These proposals will have significant impact on Florida's natural and economic resources, therefore, we recommend that extreme care and caution be exercised in your review process. The affected agencies, in addition to expressing a variety of technical concerns, have suggested alternative mining proposals and activities which should be considered by your agency in the granting of any permits.

The State of Florida welcomes the opportunity to work with your agency and the companies in resolving our concerns. To meet your November 13 deadline and in the interest of time, I have requested that the Department of Environmental Regulation forward directly to you their comments on the Mississippi Chemical Corporation's phosphate mine impact statement.

Sincerely,

Walter O. Kolb
Sr. Governmental Analyst

WOK:dmc

Enclosures

cc: Steve Fox
F. G. Banks
George Percy

An Affirmative Action/Equal Opportunity Employer

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

RECEIVED
NOV 10 1981
NATURAL RESOURCES POLICY UNIT
OFFICE OF PLANNING & BUDGETING
OFFICE OF THE GOVERNOR

November 10, 1981

Mr. Walt Kolb
Senior Governmental Analyst
Office of Planning and Budgeting
Office of the Governor
415 Carlton Building
Tallahassee, Florida 32301

Dear Walt:

Re: Draft Environmental Impact Statement for Mobil Chemical's South Fort Meade Phosphate Mine, Polk County, Florida

The draft environmental document was prepared pursuant to EPA's determination that the issuance of a new source National Pollution Discharge Elimination System (NPDES) permit to Mobil Chemical Company would constitute a major federal action significantly impacting the quality of the environment. The document has been prepared in accordance with NEPA requirements.

According to the document, Mobil Chemical's proposed mining operation would produce 77 million tons of wet phosphate rock over the 25-year life of the mine. A total of 15,194 acres of the 16,288 acre tract would be disturbed by mining operations. The mine is designed to produce 3.4 million tons of phosphate rock annually and developed in two phases.

Mobil Chemical's mining and processing includes dragline mining, pipeline slurry transport, beneficiation; sand/clay mix for waste disposal, conventional reclamation of clay settling areas, groundwater withdrawal, surface water discharge and wet rock transport. The proposed mining operation is typical of the existing Central Florida Phosphate District and exhibits no innovative technology for groundwater conservation or clay settling area reclamation. W-34

The proposed mining plan anticipates disturbing 15,194 acres or 93 percent of the South Fort Meade mine site, including 2,055 acres of wetlands and streambeds. Only 132 acres of wetlands consisting of a 75 acre cypress dome and buffer strips (25-year flood plain) along portions of the Peace River and Bowlegs Creek are scheduled for preservation. True preservation of these areas, however, is unlikely as drainage of nearby areas associated with mining activities will deprive these wetlands of water contributions from surface runoff and from the surrounding surficial aquifer causing them to dry up. W-35

Wetlands proposed for mining include 60,000 linear feet (11.36 miles) of tributary streams to the Peace River and Bowlegs Creek and scattered freshwater swamps and marshes. The EIS justifies the elimination of these aquatic systems by mining for the following reasons: 1. the area has been disturbed by man-induced activities (drainage works and cattle grazing), 2. species similarity between tributaries and receiving systems was low, 3. species interchange between systems appeared minimal, and 4. contribution of materials and species from the smaller tributaries to the much larger river and creek systems was minimal.

A review of the Aquatic Biology Section of the environmental report by our Biology Section in Tallahassee and our Technical Service Section in Tampa raise questions concerning the biological data gathering methodology and, therefore, the conclusions reached as to the ecological importance of the Peace River and contributary systems on the Mobil site. We believe that the low faunal diversity (42 species) found by the investigators in the Peace River and presented in Tables 8-10 and 11 of the report is probably due to inappropriate sampling techniques (ponar dredge grab sampling) for collecting invertebrates which are found on a variety of substrates, many clinging or attached to log surfaces and rocks on or above the substrate. A more representative list of macroinvertebrate species (110) was collected by DER from the Peace River near the Polk-Hardee County line using artificial substrates, grab samples and qualitative samples taken in composite. Another reason for the contrast in the data may be due to the location of the sampling site. A great deal of variability can be found in bottom grabs taken from clean sand bottoms, leaf packs, pooled areas out of flow, gravel or rock, etc. The Peace River, for example, depending on flow conditions, may exhibit varying substrates which influence the presence or absence of certain organisms. This, however, should not be taken as an indication that most of the organisms have been "flushed" from the area. We believe the use of artificial substrates during the same sampling period would have helped to overcome an apparent sampling bias and possibly produce a picture of a more stable aquatic environment. Moreover, the validity of the Florida Biotic Index is questioned when only using grab samples taken in lotic environments, but should be derived from ponar and/or artificial substrates and composite qualitative sampling. Noteworthy, is that Florida indices reported by Mobil ranged from values as high as 10 and as low as 0, whereas DER biological sampling using the methods described above resulted in Florida indices ranging from 26 to 48. This data is available from our PNS network files in Tampa. W-36

Similarly, we also question the comparison of small tributary systems such as Gilshey, Gurr and Stephens Branches with a limited range of habitat to larger streams such as Bowlegs Creek and the Peace River which have a diversity of habitats. A more equitable approach would have been to compare the small tributaries with each other. Using the W-37

EIS comparison it would seem only logical that species composition would not be exactly the same. Nevertheless, it should not lead us to believe the contribution by the small tributaries to the larger Peace River and Bowlegs Creek to be negligible unless the tributaries contained very few of the aquatic fauna found in the riverine environment.

A review of the species found in Gilshey Branch by DER (see table 8 enclosed) reveals that nearly every aquatic invertebrate found in Gilshey Branch is also found in the Peace River and, additionally, that many of these invertebrates were found in drift net samples indicating some downstream movement and therefore potential contribution to the riverine food web. Additionally, many of the organisms collected from Gilshey Branch were early life stages indicating that the tributary is used as a nursery area for many aquatic invertebrates that ultimately drift downstream to continue their adult lives in the river. W-38

The Peace River system has been environmentally degraded, particularly in its headwater reaches, by industrial, agricultural and residential development. Typically, headwater reaches of riverine systems have the most diverse fauna and downstream drift from these areas are very important recruitment sources for invertebrates which are an integral part of the riverine food web. Although much of the recruitment source has been removed from the Peace River System the river continues to exhibit moderate species richness, particularly in the Polk-Hardee County vicinity. We believe one important contributing factor in maintaining the species diversity in the river is recruitment from the tributaries. These small tributaries are allochthonous systems dependent on the overhead canopy for their source of detritus and shielding from the sun to deter extensive periphyton growth. We believe that the removal of these tributaries, even with some type of reclamation attempt, (which to date is an unproven science) would reduce food and faunal recruitment to the river and, thereby, its water quality. Finally, without a realistic handle on the existing aquatic resources of the site and an inequitable comparison of the tributary systems, it appears that there is not sufficient information on which to adequately assess the impacts of the mining and/or discharge on the water quality or biological integrity of the river. W-39

A review of the document indicates that much of the site's aquatic resources, particularly the streams and contiguous wetlands, scheduled for mining are within the Department's dredge and fill jurisdiction pursuant to Chapters 253 and 403, Florida Statutes. Permits would be required prior to mining in areas determined to be waters of the State. Applications for permits to mine such areas are routinely subjected to biological/ecological appraisals and a hydrographic review. Based on our review of this document and on past agency decisions concerning mining in areas exhibiting good water quality and providing essential fish and wildlife habitat, an application can be expected to receive a negative assessment. W-40

The project proposes periodic discharges to the Peace River from the 45-acre clear water pool adjacent to the processing facility via an outfall ditch constructed parallel to the railroad corridor. Our Water Analysis Section indicates that the water quality assessment presented in the environmental impact statement is based on an adequate data base. However, until a wasteload allocation has been determined for the discharge, a conclusion on specific effluent limits cannot be made. Furthermore, as indicated in the document analysis, several water quality criteria, specifically D.O., fluoride, sulfate and specific conductance, are already being violated in the receiving stream. Therefore, before any effluent limits can be developed for pollutants that might contribute to these violations, some form of relief from the State's water quality criteria would have to be entertained by the applicant. These issues will be addressed further in the State's NPDES certification process. W-41

Additionally, our Technical Service Section reveals that section 7.1.4.1.2 lumps that portion of the Peace River adjacent to the Mobil site into what the FDER, 1980 report calls poor water quality in the upper reaches of the river. We contend that upper river portions (North of SR 640) periodically do exhibit relatively poor water quality that in most cases can be attributed to specific sources. However, the river in lower Polk County should be included as that part of the river exhibiting considerable recovery; this recovery is particularly evident when faunal assembledges are compared between Polk-Hardee County line areas and upstream locations. W-42

Our Groundwater Section reports that the document provided an overall good discussion of the groundwater issues. Although it failed, in their opinion, to address the long-term and regional impact of "mining" the groundwater for 100 percent of the mine's water needs. They felt a better plan would have used at least some surface water instead of relying totally on groundwater. This is especially significant since recharge of the confined Floridan Aquifer is a slow process at best, and the dewatering of the surficial aquifer coupled with paving of other recharge areas would contribute further to reducing the recharge to the Floridan. Enclosed is a copy of more detailed comments on the groundwater section prepared by Department staff. W-43

The mining of the site's wetland communities, including the tributary stream channels and contiguous wetlands, will result in the loss of aquatic soils, plants, animals and habitat and inturn affect receiving stream water quality. Furthermore, in light of reclamation technology it is unlikely that the site's aquatic resources can be returned to their pre-mining function. Moreover, even if reclamation is capable of replacing some kind of aquatic habitat, the loss of natural wetland functions in providing fish and wildlife habitat and maintaining water quality will be lost essentially for the life of the mine, and possibly forever. W-44

For the above reasons, we recommend that the tributary systems to the Peace River be preserved. This includes the submerged portions and contiguous wetlands. Additionally, seasonal water flows to stream systems should be maintained to offset the loss of water contribution from the water table aquifer. Buffer areas should be established adjacent to each tributary to reduce the dewatering impact of mining the surficial aquifer. Finally, upland reclamation should be consistent with Department of Natural Resources' Rule 16C-16, Florida Administrative Code.

W-45

Sincerely,

Stephen J. Fox, Director
Division of Environmental
Permitting

SJF/job

Enclosures

cc: Bill Hennessey
Bill Kutash
Mickey Bryant
Steve Palmer
Larry Olsen
Rodney DeHan
Andy Feinstein

DER TABLE 1

SPECIES LIST

Peace River @ Polk/Hardee County Line
(Hester Dendy, Ponar Grabs, Qualitative)
110 species

Planarian

Limondrilus hoffmeisteri
Pristina longisoma
UID Tubificid w/capilliform setae

Batracobdella phalera
Helobdella elongata
Helobdella triserialis

Hyalella azteca

Asellus racovitzai
Asellus sp.

Palaemonetes paludosus
Procambarus fallax

Baetis intercalaris
Baetis pygmaeus
Baetis ephippiatus
Baetis propinquus
Brachycercus maculatus
Caenis diminuta
Callibaetis floridanus
Centroptilum hobbsi
Centroptilum viridocularis
Pseudocloeon alachua
Stenacron interpunctatum
Stenonema exiguum
Tricorythodes albilineatus

Argia sedula
Argia fumipennis
Argia moesta
Enallagma cardenium
Enallagma pollutum
Hetaerina titia
Ischnura posita
Ischnura ramburi

Boyeria vinosa
Epicordulia princeps
Gomphus dilatatus
Gomphus minutus
Gomphus plagiatus
Hagenius brevistylis
Libellua sp.
Macromia georgina
Macromia taeniolata

Tetragonuria sp.

Corydalus cornutus

Cheumatopsyche sp.
Cyrnellus fraternus
Hydropsyche sp.
Hydroptilia sp.
Nectopsyche exquisita (nr.)
Nectopsyche pavida
Oecetis spp.(3)
Oxyethira sp.
Polycentropus cinereus

Parapoynx sp.

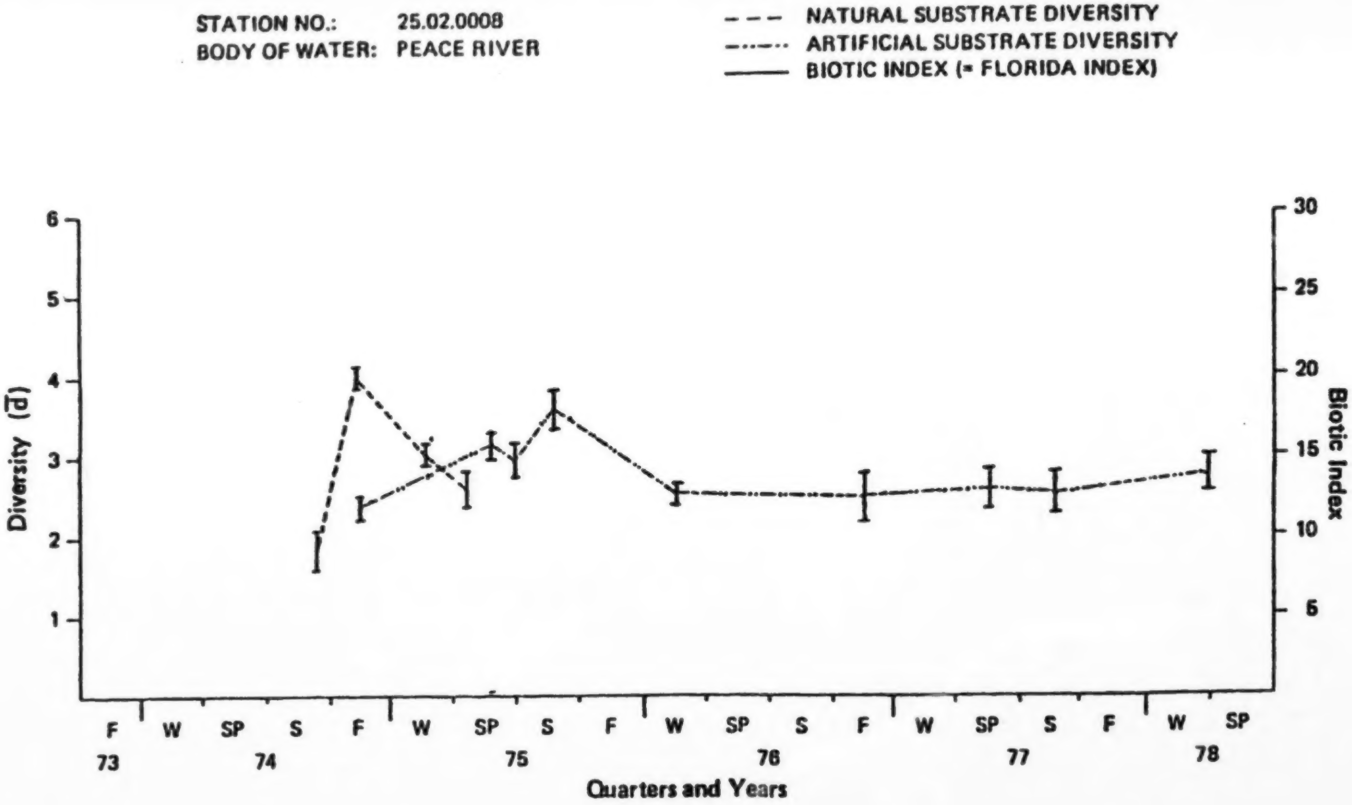
Chaoborus sp.
Ceratopogonid spp.(3)
Dasyhelila sp.
Empididae sp.
Ablabesmyia mallochi
Ablabesmyia parajanta
Ablabesmyia tarella
Chironomus sp.
Cladotanytarsus spp.(2)
Coelotanypus tricolor
Corynoneura sp.
Corynoneura taris
Cricotopus sp.I Beck
Cricotopus bicinctus
Cryptochironomus blarina
Cryptochironomus fulvus
Cryptochironomus sp.
Dicrotendipes modestus
Dicrotendipes neomodestus
Labrundinia floridana
Micropsectra spp.(2)
Paralauterborniella nigrohalteralis
Paratanytarsus sp.
Pedionomus beckae
Pentaneura inculta
Polypedilum convictum
Polypedilum halterale
Polypedilum illinoense
Procladius sp.
Pseudochironomus fulviventris
Rheotanytarsus exiguus
Tanytarsus spp.(2)
Thienemanniella xena
Tribelos fusicornis

Dineutus sp.
Dubiraphia sp.
Haliplus sp.
Hydrophilus sp.
Microcylloepus pusillus
Stenelmis sp.
Ferrissia sp.
Helisoma duryi (near)
Hydrobiidae sp.
Physa sp.
Pomacae sp.
Viviparus sp.

Corbicula manilensis
Pisidium sp.
Sphaerium sp.
Villosa amygdala

MACROINVERTEBRATE PARAMETERS VS TIME

STATION NO.: 25.02.0008
BODY OF WATER: PEACE RIVER



DER TABLE 2.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices
And/Or To Other Than The Addressee

To:	Loctn.:
To:	Loctn.:
To:	Loctn.:
From:	Date:

TO: Dr. Rodney S. DeHan, Administrator
Groundwater Section

FROM: Don Kell, Engineer D.D.K
Groundwater Section

DATE: October 14, 1981

SUBJECT: Mobil Chemical, South Fort Meade Mine EIS

The ground water section of subject document is generally good. It differs somewhat from the others I have seen for S.W. Florida in terms of raw data, data interpretation, and pump test design, but appears to be genuine and mostly consistent, having passed through several sets of professional hands which provides for a more thorough review process.

Physically, 10 wells were constructed in the water table aquifer, 2 in the "Upper Floridan" (Hawthorn-Tampa), and 7 in the "Lower Floridan" (Ocala, Avon Park, Lake City); and the hydraulic properties of each "aquifer" was determined.[1] Both Upper (U) and Lower (L) Floridan sections were pump tested for 10-day periods, the L. Floridan at a rate of 4500 gpm, which should have allowed for a reasonably rigorous determination of transmissibility (T), although the first 1 to 3 minutes of the drawdown/time curves presented are very poorly defined which seriously limits that degree of rigour. W-46

Personally I would like to have seen at least 2 more L. Floridan wells on radii different from the E-W lineament upon which all the other L. Floridan wells were constructed and tested. The local anisotropy of the aquifer might have been evaluated in this way rather than having determined the hydraulic properties in the direction of near maximum T.[2] The rather low estimate of a 3.3' drop in the average height of the piezometric surface over the mobil site during proposed mining operations might have been considerably greater had a more conservative estimate of T than 1.3×10^6 gpd/ft been used.[3] W-47

Still the maximum regional variation observed in the L. Floridan piezometric surface over the wet/dry hydrologic period was a mere 12' (which, of course, might have reflected a lack of citrus and/or agribusiness pumpage either because of a wetter than usual year or because little agribusiness was being conducted by that time in the "phosphate country" area of Polk County. My experience in S.W. Florida tells me that T's are likely to be about 1/3 that observed by Mobil, and that regional piezometric fluctuations average about 3 times that observed. If my experience is valid for Mobil, then drawdowns that would be encountered during proposed mining would exceed 3.3' when 16.4 mgd of ground water would be withdrawn,[4] particularly those drawdowns under some of the "outparcels" shown in Figure 6-P which might exceed SWFWMD's 1,3,5 rule. Nevertheless, total drawdown in the pumped well, after 10 days of pumping, was supposedly only 8.2'![5] W-48

There were a number of "corrections" to the raw data that were insufficiently defined in the text. Regarding the Maddox reference well, for instance, 7 miles from Mobil's pumped well, we don't know what pumping may have gone on around it. W-49

Then there is the matter of ground water quality.[6] During the pumping test, SO_4 concentrations rose from 255 to 500 ppm, and conductivity from 790 to 1042 µ mhos/cm. Water quality sampling during reverse air drilling yielded SO4 concentrations of 100ppm at 800' well depth, 650ppm at 1200', and 1650ppm at 1400'. This deep well was plugged back ultimately to 1000' and a 3 day pumping test was conducted with the same water quality results. None of this is particularly suggestive of a "tight" anhydrite lower confining layer which would prevent the long term deterioration of water quality locally due to pumping for mining activities. W-50

Finally, while it has been argued that large pumping drawdowns (despite their other negative impacts) would increase the potential for recharging the deeper artesian aquifers (Mobil claims an increase of 0.2"/year from its projected 3.3' drawdown), Figure 4-3 suggests a 46% reduction in recharge since 9700 acres of relatively "impermeable" slime ponds would be emplaced on Mobil's 16,300 acre tract. And of course complete dewatering of the water table aquifer during mining would preclude recharging in that area. Then I believe that a certain amount of that Hawthorn/Tampa clay dewatering (sacrificing storage to give up some of that 10^{-3}gpd/ft^2/ft. leakance observed during the L. Floridan pumping test) would be irreversible.[7] This means that recharge capacity from ground surface would never again be as great as at present even though mining activities were to cease after 25 years. Water level recovery, and an increment of potential water quality recovery would never approach 100% therefore. W-51

All in all I'm not sure that EPA's preferred-alternative of 100% ground water use, instead of surface water use, or partial use, of renewable surface waters from Bowlegs Creek and the Peace River, is wise when viewed both from the long term and regional standpoints. W-52

DK/ek-cs

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1. One must be always aware that the number of "aquifers" encountered is a function of the test design, that the aquifer is undoubtedly more complex than is indicated in subject document (3 heads, 3 chemical profiles, etc. become the 3 zones sampled). Several more reasonably independent "aquifers" might have been defined through a more elaborate test design, although the characterization presented is entirely valid and reasonably adequate so long as one keeps in mind that at least 2 of the "aquifers" therein defined are composites. W-53

2. Floridan aquifer properties in the Mobil region of S.W. Florida have been seen to vary by as much as 100% between maximum and minimum valves. W-54

3. This valve is for the L. Floridan only, without even the benefit of the lower 200 to 300' above the Lake City! W-55

4. The 3"/year of Σ rainfall "leaking" into the L. Floridan, as claimed by Mobil, and consistent with a 10^{-4}gpd / ft^{2}/ft k'/b' in that direction, may be excessive. No leakance at all was detected during the Swift Chemical (Estech) or C. F. Industries pumping tests, which may indicate that long term drawdown stability had not been reached during Mobil's 10 day pumping test. Indeed, the 1.1 to 5.1 + 10^{-3}gpd / ft^{2}/ft k'/b' observed in wells LF-5, LF-6, LF-11, and LF-13 (Table 6-4) is excessive by an order of magnitude or more for "leakance" from ground surface (and by 2 orders of magnitude to be consistent with the Swift and C. F. Industries experiences), but instead undoubtedly represents pump test derived leakance mostly from the U Floridan section, with a minor contribution from the supposedly "tight" lower anhydrite "confining layer" of the L. Floridan, which contribution was not observed at either Swift or C. F. Industries. W-56

When one considers the leakance valve of 4.5×10^{-2}gpd/ft^{2}/ft observed for well LF-12 (Table 6-4), which well had been drilled to 1400' but was later plugged back to 1200', one wonders about the hydraulic conditions in the vicinity of well LF-12 (or about the quality of the "plug"). W-57

5. It is indicative that a 3' drawdown, after 10 days, was observed in well LF-11 at 1000' from the pumped well, while in well LF-12 at 500' a drawdown of only 2.2' was observed (Speaking of local anisotropies)! Such a well was encountered during C. F. Industries' pumping test also, which indicated a T in that direction of several million gpd/ft^{3}. It would have been helpful if the drawdown curves for wells LF-5, and LF-8 had been included in subject document, although a drawdown of 2.1' for well LF-5, at 5100', can be inferred from the long term regional waterlevel trend in Figure 6-F. That no well logs at all were included in subject document constitutes a monumental oversight (hopefully not a deficiency)! W-58

6. The L. Floridan, pumped for 10 days, produced water whose Cd content was 1000% of FAC standards for V-B waters; gross alpha content was 200%, Cr and Hg - 100%, Pb - 80%, Ag 60%, and Se 40%. W-59

7. I've observed such clay dewatering in strain guage and narrow monitoring zone well response performances at both the C. F. Industries and USGS Osceala National Forrest pumping tests. W-60

3.2 RESPONSES TO WRITTEN COMMENTS

Response W-1

The proposed action and EPA's preferred alternative both envision reclamation activities to begin on a mined area as soon as technically feasible. Since essentially all mined land is to be used for waste disposal, it is impractical to consider reseeding with grass until these operations are completed. Once waste disposal is completed, reclamation begins essentially immediately for the sand tailings and overburden fill areas. In the case of both the sand/clay capped clay settling areas and the uncapped clay settling areas, reclamation must await consolidation of the clays. After the reworking of the land forms, the reclamation process moves on to planned revegetation as described in the DEIS. Virtually no time would elapse between the end of waste disposal and the beginning of reclamation in a given area. Of course, some lands would be barren for a period of time before being reworked. It is believed, however, that natural revegetation combined with other natural factors, as described below, will be sufficiently effective controls for fugitive dust to assure that Florida and National Ambient Air Quality Standards are not exceeded.

A publication by the U.S. Department of Agriculture (Chepil, W.S., 1958) provides an in-depth discussion of the effect of surface soil moisture on soil erodability. Simply put, surface watering causes, in addition to the cohesive effect of a moisture film, the formation of a thin surface crust which is more mechanically stable than the underlying soil and more resistant to dust formation. Frequent watering maintains these properties in the soil. At the South Fort Meade Mine site, precipitation averages over 50 inches per year, thus providing soil crust formation and nigh soil moisture, both of which tend to reduce fugitive dust formation. Additionally, these mined areas are not subject to any vehicular traffic which would generate dust by breaking up the surface crust on the soil.

It is expected that reseeding all disturbed areas of the mine site with grass prior to formal reclamation would not significantly reduce fugitive dust emissions, which are expected to be low in any case. Further, as reclamation would generally proceed rapidly after closure of a particular mined area, in many cases the reseeded areas would simply be plowed under shortly after planting as reclamation activities begin. Thus, EPA does not consider it necessary to condition Mobil's NPDES permit issuance on immediate grass seeding of disturbed areas. If fugitive dust from the mine does cause a problem off-site, Florida and Federal regulations provide sufficient authority to require Mobil to implement corrective measures.

Response W-2

Open burning is regulated by the State. This was discussed in Section 3.1.2.2.1 of the DEIS and addressed by NEPA requirement No. 14 of the Draft NPDES Permit.

Response W-3

The applicable Florida air pollution control regulations were listed in Section 3.1.1.2.1 of the DEIS. Mobil Chemical Company is responsible for obtaining the applicable state air control permits and complying with all state air pollution control regulations as addressed by NEPA requirement No. 14 of the Draft NPDES permit.

Response W-4

The proposed reclamation plan, as presented in the DEIS (page 2-77), calls for reestablishment of 453 acres of planted pine. Mobil plans to assess the silvicultural potential of its land by utilizing the 453 acres as test plantings. If the pine plantings are successful, then Mobil may amend its proposed plan to include more pine plantings in the latter stages of mine life. Additionally, slash pine is proposed for plantings as part of the upland mixed forest and stream-side revegetation plans. The proposed reclamation plan would attempt to maximize the amount of mixed forest lands to encourage the formation of preferred wildlife habitat as recommended by EPA and the Fish and Wildlife Service.

Response W-5

Commercial timber and pulpwood would be harvested prior to land clearing as indicated on pages 2-17 and 3-140 of the DEIS.

Response W-6

Mobil has contacted and would continue to maintain contact with the District and State Foresters during the development of their reclamation plan. EPA has expanded proposed NEPA condition No. 6 of the Draft NPDES permit to require that Mobil contact the District or State Forester (Florida Forest Service) for assistance in development of the reforestation plan.

Response W-7

Mobil would monitor the water levels and water quality in the three aquifers present at the site (Shallow, Upper Floridan and Lower Floridan). As required by the Southwest Florida Water Management District (SWFWMD), data from the 12 wells specified in the Mobil Consumptive Use Permit (No. 205403) would be reported to SWFWMD on a monthly basis. Additional continuous water level data would be obtained by Mobil from Wells UF-5 and SA-5.

SWFWMD exercises regulatory jurisdiction related to the consumptive use of water over substantially all of the Central Florida Phosphate mining region. As a result of Mobil's intensive investigations on the property, and the subsequent evaluation of the technical information, SWFWMD issued a Consumptive Use Permit to Mobil in October 1980. An applicant for a SWFWMD Consumptive Use Permit must demonstrate that the intended use would be reasonable and beneficial, consistent with the public interest and not interfere with any legal use of water existing at the time of application. Issuance of the permit would have been denied if the intended withdrawal would cause any of the following results:

- o Violation of minimum regulatory levels established for the flow of a stream or other water course, for the potentiometric surface or for surface water
- o Saltwater encroachment
- o Lowering of the water table so that the lake stages or vegetation will be adversely and significantly affected on lands other than those owned, leased or otherwise controlled by the applicant

- Reduce the rate of flow of a stream or other water course by more than five percent at the time and point of withdrawal
- Cause the level of the potentiometric surface under lands not owned, leased or otherwise controlled by the applicant to be lowered by more than five feet
- Cause the level of the water table of such lands to be lowerer by more than three feet
- Cause the level of the surface of water in any lake or other impoundment to be lowered by more than one foot unless the lake or impoundment is wholly owned, leased or otherwise controlled by the applicant
- Cause the potentiometric surface to be lowered below sea level

For good cause shown, however, SWFWMD may grant exceptions to the criteria listed above, when, after consideration of all data presented, including economic information, it finds that an exception is consistent with the public interest.

Water from the Mobil production wells within the Lower Floridan Aquifer would be collected monthly and analyzed for sulfates, chlorides and total dissolved solids. Well LF-11 would be sampled quarterly by a "thief" sampler and the water analyzed for the same three parameters.

NEPA requirement No. 12 of the Draft NPDES permit requires Mobil to monitor the Shallow Aquifer to assess the effectiveness of the perimeter ditch in preventing dewatering of the preserved area during mining activities conducted near the Bowlegs Creek preserved area. Mobil shall not allow the Shallow Aquifer, in the preserved area, to be lowered more than three feet due to mining activities.

Response W-8

No response is required.

Response W-9

No response is required.

Response W-10

No response is required.

Response W-11

Any permitee has the right to request reconsideration of any of the NPDES permit conditions should new information become available.

Response W-12

Polk County Health Department officials have indicated that wetland creation during reclamation has increased mosquito populations in some localities. Vector-borne diseases do not appear to be centered around phosphate mines. Polk County maintains flocks of chickens which are periodically tested for the presence of a mosquito-borne virus. Hardee County officials have indicated the lack of known vector-borne diseases in the area.

RESPONSE W-13

The Final Environmental Impact Statement for Central Florida Phosphate Industry (EPA 1978) requires that new sources meet SWFWMD Consumptive Use Permit requirements. Mobil has met these requirements and obtained a permit. In addition, see Response W-7.

Response W-14

As discussed in the DEIS, approximately 60 percent of the reclaimed lands which possibly could be used for residential development (excluding reclaimed wetlands) exceed the EPA recommended indoor radon progeny levels of 0.009 Working Levels (WL). It should be noted, however, that those reclaimed lands which exceed the recommended WL are also those which are the least desirable for construction of structures on either a short-term or long-term basis (see Tables 2.6-7 and 2.6-8 of the DEIS). All reclaimed lands on the South Fort Meade site which are rated as having the highest potential value for construction of buildings have projected indoor radon progeny levels for slab-on-grade structures of less than 0.009 WL. Thus, there would not be any need for deed restrictions to limit land use or set construction standards for the lands most likely to be used for residential development. In the case of those reclaimed lands exceeding the recommended WL, current research, as described below, is likely to have established the necessary building codes by the time sufficient demand develops for residential use of these areas.

In the spring of 1980, the State of Florida established a phosphate-related Task Force to identify problems resulting from construction of homes on phosphate mined and reclaimed lands and to recommend appropriate solutions. One of the problems identified was the potential for high levels of radon and radon progeny accumulating in such homes. As a result of its investigations, which are still underway, the Task Force is expected to produce recommended State of Florida guidelines for radon exposure levels in homes build on reclaimed lands.

In December of 1980, EPA initiated a study entitled "Program for Control of Indoor Radon Levels - Common Building Practices and Soil Gas Entry Routes in Central Florida." This study, which is scheduled to take place over a 12- to 15-month period, is aimed at determining appropriate remedial measures for homes already constructed on reclaimed lands. The study also will address recommended building practices for the construction of new homes on reclaimed lands.

The results of EPA's study will be made available to the State of Florida, and it is expected that the Task Force will use the information in its development of state building codes for construction of homes on reclaimed lands. It also is fully anticipated that Florida's guidelines for radon exposure levels and building codes will be completed and adopted well in advance of the time that the South Fort Meade site would be considered for residential development.

In view of these facts, EPA does not consider it necessary or appropriate to condition the Mobil Draft NPDES permit to require the recording of deed restrictions for the mine property.

Response W-15

Water would be recovered from the waste clays and used in the water recirculation system. Water management techniques, as described in Sections 2.1, 2.5, 2.7, 3.5 and 6.1 of the DEIS, would permit water to be recovered for reuse from ore transportation, washing, feed preparation, flotation processes and waste disposal, thus minimizing effluent discharge and consumptive uses.

The flow requirements for each source of water, listed in Table 2.1-2 of the DEIS, indicate a total of 16.413 MGD of new water and 157.2 MGD of recycled water. This is an effective recycle rate of greater than ninety percent.

Response W-16

The proposed mine would be operated 24-hours a day, 7-days a week. The dikes are inspected daily as described on page 3-145 of the DEIS. Mobil is subject to the requirements of the Federal Mine Safety and Health Act of 1977. Accordingly, the property would be posted "No Trespassing", and all persons on the site would either have had safety training or be escorted by a person with safety training.

Response W-17

EPA has recognized the problems with conventional clay settling areas as identified in the Areawide EIS (EPA, 1978). EPA has addressed this concern through the development of alternative methods of waste disposal (DEIS Section 2.5). EPA's Preferred Alternatives and Recommended Action, DEIS Section 2.13, differed from the company's proposed action. The sand/clay cap plan consists of placing a mixture of sand and clay as the surface land forms as identified in Section 2.6.2 of the DEIS. The impacts on the surface water and biological resources were identified in Sections 3.5.2 and 3.6.2 of the DEIS.

Response W-18

A number of alternatives for waste disposal and reclamation were evaluated in the DEIS Sections 2.5 and 2.6. NEPA requirement No. 1 stipulates that Mobil employ the sand/clay cap waste disposal and reclamation plans instead of the conventional waste disposal and reclamation presented as Mobil's proposed action. Mobil has agreed to implement these innovative mining techniques. NEPA permit condition No. 14 requires Mobil to meet all state and local requirements for the mining operation.

Response W-19

EPA is the agency responsible for preparation of the DEIS. The DEIS has presented an evaluation of Mobil's proposed action and of alternative actions developed by EPA. Through the NPDES permit, EPA can require that an alternative waste disposal and reclamation plan be utilized, as stipulated in NEPA requirement No. 1. EPA does not propose to issue an NPDES permit for conventionl waste disposal which was presented as Mobil's proposed action. The alternatives chosen by EPA as the preferred action are contained in the NEPA permit requirements. Selection of this preferred combination of alternatives would not require preparation of a new EIS.

Response W-20

The A-95 Clearinghouse comments received November 13, 1981, were accepted into the record.

Response W-21

Mobil would include specific marsh revegetation methods when reclamation plans are submitted to the state for approval. These specific methods would be based upon the best state-of-the-art technology at that time. Present approaches to marsh revegetation have been identified in the DEIS (page 2-74) and include use of substrates from existing marshes as a seed and vegetative propagule source, the transplanting of the desired vegetation from existing marshes and allowing areas to naturally revegetate. Additionally, NEPA condition No. 14 requires Mobil to perform its reclamation in accordance with local and/or state rules and regulations, one of which is to provide a 50 percent herbaceous cover on all non-forested wetlands (DEIS, page 2-74).

Response W-22

The validity of the comment is acknowledged. The wildlife habitat at the proposed mine site has already been altered by the existing cattle usage, as described in Section 3.6.1.2.1 of the DEIS. No intensive cattle usage is proposed as a post-reclamation land use; it is assumed that cattle usage would be similar to that which presently exists.

Response W-23

Failure to mine the phosphate ore under the plant site would increase the energy requirements of future recovery of the ore.

Response W-24

EPA addressed mass loadings as part of the evaluation for setting permit conditions (DEIS Sections 3.5.2.2.7 and 3.6.2.2.7). Those parameters which would possibly exceed pollution limits were stipulated in the effluent limitations of the Draft NPDES Permit. The permit conditions are developed to minimize adverse effects on the total environment.

Response W-25

Monitoring of wetland areas for vegetation and macroinvertebrates is addressed in NEPA requirement No. 11. Data to be collected would be adequate to calculate various environmental indices. EPA will evaluate the success of the wetland re-creation. Water quality monitoring programs are stipulated as part of the Draft NPDES permit and state requirements.

In responding to this comment, it is appropriate to explain the rationale behind the development of the monitoring program required in NEPA requirement No. 11. The monitoring program was not meant to serve as a quantitative study of wetlands restoration, but rather it was meant to give an early indication of the results being achieved at the Mobil site so that the Mobil restoration program could be refined and improved for the remainder of the site. While no assumption is made that wetlands re-creation in a given area will be completely successful at the first attempt, it is important to recognize that Mobil is mandated by state reclamation requirements as well as the conditions of the NPDES permit to successfully restore the specified acreages of wetlands. If the restoration effort does not "take" in certain areas, these areas will have to be redone until satisfactory results are achieved.

Temporal aspects of the reclamation plan strongly influenced the development of the assessment program in NEPA requirement No. 11. One of each of the wetland re-creation types (forested stream channel, depression wetland and forested wetland) was naturally selected for study and, of each type, the earliest area available for study was selected. Examination of Figure 2.6-F and Table 2.6-3 of the DEIS shows that Maron Run (in TF-1, TF-2 and TF-4, reclaimed in mine years 8, 9 and 11, respectively) is the earliest reclaimed forested stream channel and, therefore, the one selected for study. Similarily, CS-1 (reclaimed in mine year 14) contains the earliest reclaimed depression wetland. The third type of wetland re-creation, reforestation of wetlands, would only be performed on 504 acres of graded spoils occurring in the below-grade clay settling area CS-14. Since CS-14 is not reclaimed until mine year 34, it was not considered a feasible candidate for the long term monitoring to take place during the life of the mine.

The most critical aspects of the depression wetland (its relative depth and any elevation changes due to subsidence) will be monitored over the five-year life of the original permit, which includes the time interval in which the majority of the subsidence would be expected to occur. Moreover, by the time the year-long monitoring program for the depression wetland is completed (around mine year 15) it would be possible for EPA to make an informed decision concerning the need for long-term monitoring of Maron Run.

Response W-26

This correction appears in Chapter 2.0, Errata of the FEIS. Table 6-6 from the SID was to have been used as Table 3.4-1 for the DEIS.

Response W-27

The storativity (storage) value for the Lower Floridan Aquifer was determined, by testing, to be 0.0002 (dimensionless). Tests to determine the storativity values of the Shallow Aquifer and the Upper Floridan Aquifer were not considered necessary. An estimate of the storativity of the Shallow Aquifer was made based on the sieve analysis of the soil samples. This estimate averaged 0.20. No estimate of the storativity of the Upper Floridan Aquifer was made. The information is discussed in 6.1 of the SID.

Response W-28

The DEIS addresses the dragline crossing activities (page 2-19, 3-138 and 3-139) on Bowlegs Creek. A culvert would be placed in the creek with earth back-filled around it. The source of fill would not be Bowlegs Creek proper. After the second dragline crossing in 2002 the culvert would be removed and the stream channel re-established. Re-establishment of the channel would include removal of the fill. The revegetation plans propose planting of tree species characteristic of wetlands after crossings are complete which would result in a relatively higher productive system than that which presently exists.

Response W-29

The location of the proposed dragline crossing of Bowlegs Creek is at an existing ford used by vehicles and cattle (DEIS page 2-19). There are no trees near the ford since the land is used for pasture. The stream banks have been altered, and the water is shallow. The stream bottom is currently disrupted by crossings; therefore stream productivity is minimal at best. The impacts are discussed in DEIS Section 3.6.2.1.

Response W-30

Animals that migrate would survive for the short-term. However, if adjacent areas are at carrying-capacity, then net loss of faunal resources would be realized over the long-term. This is identified in the DEIS (pages 3-136 and 4-4).

Response W-31

Productivity of wetlands proposed to be mined was found to be minimal (DEIS, page 3-142). Key wetlands that were found to be unique or having aquatic system value and regional significance would be preserved with adequate buffer strips and associated rim ditches (DEIS, page 3-143).

The active clay settling areas provide interim aquatic habitats during mining. These areas would support common marsh species as volunteer plants invade them and would provide food sources for wildlife. This is described on page 3-147 of the DEIS and is common to all cases.

Response W-32

A discussion of the pre-mining condition is addressed in the DEIS (pages 3-134 and 3-142) with post-mining conditions for the EPA preferred alternative addressed in the DEIS (pages 3-80, 3-81, 3-151 and 3-152). Table 3.6-4 presents the comparison of existing vegetative cover types and those proposed for the preferred alternative. The comments concerning wetlands are addressed in comments W-21 and W-31.

Response W-33

The comment is acknowledged and concerns are addressed in Responses W-21 through W-32.

Response W-34

Alternatives for groundwater conservation and clay settling area reclamation, as well as the other mining subsystems, were thoroughly evaluated in the DEIS. Use of innovative technology was a part of the EIS process, and where innovative technology was shown to have an environmental advantage over the other alternatives being considered, then it became EPA's preferred alternative.

Mobil's proposed action for mining the South Fort Meade site is typical of the existing mining practices in the central Florida Phosphate District. However, EPA's preferred alternatives and mitigation measures, which are part of the Draft NPDES permit, require Mobil to use innovative technology, i.e., dredge mixing of sand and clay and distributing the mixture over dewatered clay settling areas. The sand/clay cap method of waste disposal and reclamation has never been practiced on a production scale basis and does constitute innovative technology. This method is discussed in Sections 2.5.2 and 2.6.2 of the DEIS.

Mobil is also conducting pilot scale studies of stream restoration techniques (Sink Branch Study). The results of this study would be used to develop optimum stream restoration procedures for restoring disturbed tributaries on the South Fort Meade site. A more complete discussion on the Sink Branch Study can be found in Section 2.6.1.1 of the DEIS.

Water management techniques at the South Fort Meade Mine would permit water to be recovered from ore transportation, washing, feed preparation, flotation process and waste disposal, thus minimizing effluent discharges and consumptive uses. Approximately 90 percent of the water usage in Mobil's mining operation would be recycled water.

Response W-35

Mitigative measures are required as NEPA conditions to protect the preserved wetlands. The 75-acre cypress dome on the east side of the property is not scheduled for mining. Only a very small portion of the drainage basin to this wetland would be disturbed, thereby minimizing the effects of reduction in surface runoff contributions to this wetland. Rim ditches would be constructed along preserved areas to prevent changes in the water table level in the surficial aquifer (NEPA requirement No. 12). There would be reduction in surface runoff contribution to the Peace River and Bowlegs Creek during phases of the mining. The maximum reduction in flow to the Peace River would be 8.5 cfs or 4.6 percent of the flow in the Peace River directly below the site. Maximum average flow reduction to Bowlegs Creek would be approximately 8 cfs or 17.4 percent of the flow in Bowlegs Creek as it leaves the property (SID, page 7-23).

The buffer strips along the Peace River and Bowlegs Creek are not comprised of wetlands designated for preservation, but rather are areas which are designed to protect the preserved wetlands, thus the designation "buffer" strips. The width of the Bowlegs Creek buffer zone was determined by means of drawdown curves to assure that any dewatering effect would not reach the preserved wetlands of the creek or the creek channel.

Response W-36

The ponar grab was considered to the best standard sampling device for benthic macroinvertebrates for the study. The procedure for sampling (SID, page 8-51) was to collect six grabs per replicate, sampling along a bank-to-bank diagonal transect passing through each replicate collection zone to insure that all habitat types (pools, riffles, root mats, littoral zones) were sampled. The six grabs per replicate and sampling method were designed to reduce variability associated with habitat types. Variation in sampling results is not attributed entirely to "flushing" of organisms, but rather to a number of possible causes including seasonal shifts in population levels, sampling efficiency and substrate scouring (SID, page 8-24).

Presentation of a comprehensive species list and reliance on one environmental index does not necessarily provide sufficient information for evaluating benthic faunal communities; a variety of indices in combination provides a better framework for evaluating community stability. For the study site, benthic data were analyzed using the following indices.

- Species richness
- Total number of organisms

- Species diversity
- Equitability
- Florida index
- Percentage oligomixity
- Faunal similarity
- Faunal density

These data analysis methods are presented in the SID (pages 8-51 and 8-52). Results of the analyses are presented in the SID (pages 8-26, 8-30, 8-35, 8-101, 8-102, 8-105 and 8-108).

NEPA requirement No. 14 provides for Mobil's compliance with state and local regulations, which can and may include benthic macroinvertebrate monitoring for biological integrity. However, EPA's judgment is that such a program as a condition of the NPDES permit is not necessary.

Response W-37

Relative ecological attributes were assessed for the on-site tributaries, Peace River and Bowlegs Creek. Biotic contribution of the small tributaries was estimated using Czekanowski's fauna similarity index (Boesch 1977) for comparing species occurrence among the streams. The similarity of species occurrence (as based on presence/absence) was found to be 59.1 percent between the Peace River and Gilshey Branch and 52 percent between Bowlegs Creek and the Peace River (SID, pages 8-31 and 8-34). Additionally, it was recognized that Bowlegs Creek, Gilshey Branch and the other small tributaries on site could potentially serve as sources of colonizer organisms should an adverse event occur in the Peace River (SID, page 8-31). Consequently, those portions of the on-site tributary systems that would provide a useful function to their respective receiving streams were preserved (SID, page 8-45). The preserved sections of these tributaries would include the lower 520 feet for those flowing into Bowlegs Creek, and the lower 450 feet for those entering the Peace River.

Response W-38

A comparison of macroinvertebrates collected in Gilshey Branch (SID, page 8-107) with those collected in the Peace River (DER Table 1) indicates that similarity (based on presence/absence) is approximately 61 percent. As mentioned in response to comment W-37, the smaller tributaries could potentially serve as a source of colonizer organisms should an adverse event occur in the Peace River.

Response W-39

The wetlands functional study (SID, page 8-45) resulted in the EPA determination that only the flood backwater areas of the tributary streams contribute significantly to their respective receiving streams. This area is included in the Category 1 classification which is not to be mined. Therefore, it was determined that no significant loss of food and faunal recruitment to the river would be realized. Additionally, a reclamation study for stream channels is presently being conducted by Mobil at Sink Branch near Ft. Meade, Florida. Initial results indicate that diversion of the stream had no adverse impact on the stream's water quality (SID, page 2-45).

Response W-40

A determination of FDER's dredge and fill jurisdiction pursuant to Chapters 253 and 403 of Florida Statutes has not been conducted on the Mobil site. NEPA requirement No. 14 stipulates that Mobil would be responsible for meeting any additional or more stringent conditions which may be required by any local or state regulatory agency or governmental agency.

Response W-41

The data collected do reflect a limited number of days when observed water quality was lower than specified by Florida Administrative Code and EPA criteria. The proposed periodic discharges to the Peace River system by the South Fort Meade Mine are not expected to contribute further to these aberrations for several reasons. First, the Mobil Fort Meade Mine discharges occurring upstream would cease as closure occurs coincident with start up of the South Fort Meade Mine. Second, the current excursions from water quality standards occur during low flow periods when discharges from the South Fort Meade Mine would be limited. Third, the discharge from the South Fort Meade Mine cannot exceed 20 percent of the Peace River flow (at any time) so impacts on the river system will be minimized. NEPA requirement No. 14 of the Draft NPDES permit provides for meeting water quality criteria as imposed by the state regulatory agency.

Response W-42

Site-specific data are presented in SID Table 7-5 and indicate an increase downstream in dissolved solids, total phosphorus, fluoride and sulfate. A Water Quality Index of -1.90 indicates poorer than average statewide water quality (SID page 7-13). The portion of the Peace River adjacent to the proposed mine site could be considered to be a recovery zone since the channel is more incised causing a higher water velocity. Sedimentation is less of a problem than in upstream or downstream sections as discussed in SID Section 8.1.4.1. Characteristics associated with the Peace River's benthic community indicate a low diversity and potentially stressed community (SID page 8-27).

Response W-43

Groundwater mining is a process in which withdrawals are in excess of recharge, resulting in a loss of physical water storage within the aquifer and continuous water-level declines. At the Mobil site, as with most of Florida, groundwater mining does not occur. Water levels are maintained above the confining units precluding the actual loss of storage volume.

Impacts of the withdrawal of groundwater are limited to the life of the mine as discussed in Section 3.4.2.2.3 of the DEIS. As shown in Figure 3.4-C of the DEIS these impacts are substantially contained on the mine site and, therefore, do not constitute regional impacts. The cumulative effect of groundwater withdrawals of all the mines in the area does constitute a regional impact. The regional and cumulative aspects of phosphate mining in Central Florida are addressed in the 1978 Areawide EIS.

There is no proposed action which indicates large-scale or even significant "paving of other recharge areas" within the project region. Recharge would be reduced as described in Section 3.4.2.2.5 of the DEIS by the placement of clay wastes regardless of the source of water supply. Withdrawal of groundwater would tend to offset the impact of dewatering the shallow aquifer by inducing additional recharge, as indicated in Section 3.4.2.2.6 of the DEIS.

Response W-44

Refer to response W-39.

Response W-45

The DEIS and SID have presented material indicating that the functional value of these tributaries is low and can be recreated without significant impact. EPA has set restrictions to minimize the impacts of mining, and the information obtained by EPA does not support a requirement for complete preservation. EPA recognizes the authority of the state to place additional restrictions on Mobil. As identified in NEPA requirement No. 14, EPA has reinforced through the NPDES permit the requirement that Mobil comply with any other state or local requirements.

Response W-46

The groundwater field study actually consisted of ten water-table (Shallow Aquifer), nine Upper Floridan and six Lower Floridan wells. The separation of the hydrogeologic system into three separate units was based primarily on potentiometric heads and reaction to the pumping at Well LF-6. Figure 3.4-B in the DEIS demonstrates this very well. This is discussed at length in Section 6 of the SID.

The Upper Floridan was "slug tested" at Wells UF-1 and UF-7 and "drawdown" tested at Well UF-10. The Lower Floridan aquifer was pumped for ten days. The drawdown/time curves contained in Figures 6-K through 6-N of the SID include those of the pumped Well LF-6 (Figure 6-M). During well start-up a number of adjustments take place within the aquifer and at the well. One of these adjustments is the alteration of the pump speed to maintain the required flow rate. This adjustment is needed due to the sudden increase in pumping lift resulting from the withdrawal of a large volume of water (6.48 million gallons per day). The time/drawdown graphs of Well LF-11 (Figures 6-K and

6-L) of the SID do not indicate a substantial variation from the theoretical curve after the first minute. Therefore, the transmissivity values calculated in the SID are considered to be reliable.

Response W-47

Figure 6-A of the SID indicates that wells penetrating the Lower Floridan aquifer were located both east (LF-12, LF-11, LF-8 and LF-5) and south (LF-13) of the pumped well (LF-6). Data presented in Table 6-4 of the SID indicate that the calculated aquifer values at Well LF-13 south of the pumping well are very similar to those of Wells LF-11, LF-8 and LF-5 along the easterly line.

These data do not support the hypothesis that there is any substantial local anisotropy. They do, however, support the use of the regional transmissivity value of 1,300,000 gpd/ft and, therefore, the calculation of the average 3.3 foot decline in potentiometric levels during mine operations.

Response W-48

The annual fluctuation of the Lower Floridan aquifer potentiometric levels is shown in Figure 3.4-B of the DEIS. The range is confirmed by a review of the U.S. Geological Survey maps as shown in Figure 6-O of the SID. Regardless of the expected range of fluctuation, the calculated average of 3.3 feet of potentiometric decline over the property for a 15.7 MGD withdrawal from the Lower Floridan aquifer would be valid. Naturally, greater drawdowns would be experienced close to the pumping wells and lesser drawdowns at greater distances (DEIS Figure 3.4-C). The data collected and presented in the DEIS, SID and other supporting documentation indicate that the transmissivity values determined during the test are valid.

The projected drawdowns shown in Figure 3.4-C of the DEIS is considered an accurate representation of the Lower Floridan response to the production of 15.7 MGD. This figure illustrates that the effects of groundwater withdrawal do not violate the SWFWMD regulations.

The measured drawdown in the pumping well at the end of the test was 8.0 feet. The corrections to compensate for regional water-level trends adjusted this drawdown to 8.2 feet as is indicted on page 6-16 of the SID.

Response W-49

Corrections to the observed drawdowns were made using data from numerous wells including the Maddox Well. Water levels in the LF observation wells before and after the test were correlated with this well and the relationships were found to be consistent. This indicates that the use of this well as the primary indicator of regional water-level trends was appropriate and reliable.

Response W-50

No site-specific hydraulic data were obtained on the evaporite-rich portion of the Lake City Formation. This formation was located at about 1400 feet below land surface, and the water-quality and geophysical information support this location. Section 6.1.6.1 of the SID contains additional detail on the location of this formation. This formation has been tested at the Estech site and in northern Pasco County, and the results were essentially identical. There is no geologic nor hydrogeologic reason to believe it is other than a very "tight" formation. The water-quality data at the Mobil site are similar to those in the zones above the Lake City Formation at Estech. A complete discussion of the water quality in the Lower Floridan aquifer is contained in Section 6.1.7.3 of the SID.

Response W-51

The projected 0.2 inches/year of increased recharge due to the lowering of the Floridan Aquifer potentiometric surface would be balanced by a decrease in recharge due to the dewatering of the pits, as explained in Section 3.4.2.2.6 of the DEIS. The total long-range impact is a reduction in recharge of 1.4 inches/year over the 16,300-acre site as a result of the clay setting areas. The recharge capacity would, therefore, be reduced as is described in Section 3.4.2.2.5 of the DEIS.

The leakance indicated during the test of the Lower Floridan aquifer comes primarily from the Upper Floridan aquifer. As such, there should be no dewatering of the Hawthorne/Tampa clays.

Response W-52

The DEIS evaluated the environmental impacts of both groundwater and surface water as alternative water sources for the South Fort Meade Mine (Section 2.7). The use of surface water would reduce downstream flows in the Peace River resulting in disturbances of the natural floodplains, wetland areas and aquatic systems. Since the low flow values for Bowlegs Creek and the Peace River are not sufficient to meet the daily water requirements of the mine, construction of an impoundment was considered for Bowlegs Creek. Use of Bowlegs Creek as part of a surface water impoundment alternative for water supply, would result in adverse environmental impacts. First and most obvious, is disruption of wetland communities designated as Class 1 (preserve). Secondly, there would be a conversion of a predominately lotic community to a lenthic community with subsequent changes in flora and fauna. Impoundment of Bowlegs Creek would reduce flows to the Peace River and their contribution of detrital material and drift macroinvertebrates to down stream areas. Even with the surface impoundment, groundwater withdrawal would still be required to supply the water needs of the mine. The primary environmental impact associated with utilizing groundwater withdrawal is the lowering of the piezometric surface of the Lower Floridan aquifer. This effect and the demands of other users have been evaluated by the SWFWMD which is responsible for determining the permissible amounts of water to be withdrawn by all major users in the SWFWMD region. The fact that Mobil was granted a Consumptive Use Permit by SWFWMD is judged to represent their determination that the anticipated effect on the Floridan Aquifer is acceptable. Given all other environmental considerations relative to the two methods, groundwater withdrawal is considered by EPA to be the environmentally preferred alternative.

Response W-53

As described in Response W-46, three distinct aquifers were determined using many criteria. It is unlikely that "several more reasonably independent aquifers" might have been defined.

Response W-54

Local anisotropy and heterogeneity can account for large directional variations in aquifer values, primarily transmissivity. No such conditions, however, were noted at this site (see Response W-47).

Response W-55

The transmissivity value of 1,300,000 gpd/ft shown on page 3-77 of the DEIS is for the Lower Floridan aquifer above the confining units of the Lake City Formation. The pumping and observation wells were not fully penetrating due to water-quality considerations.

Response W-56

The calculation of recharge to the artesian aquifers from rainfall was made using a leakance of 0.0001 gpd/ft^3. This value is consistent with the values estimated at Estech and with the values given by W. E. Wilson (USGS) for this area of the phosphate region. The fact that no leakage was determined during tests in other areas does not invalidate observations made at the Mobil site. There was stability in the observed water levels as shown in Figures 6-K through 6-N of the SID.

The high values of leakance (0.001 to 0.005 gpd/ft^3) demonstrate the movement of water primarily from the Upper Floridan to the Lower Floridan aquifers. The Upper Floridan aquifer exhibited drawdowns of approximately one-third of those in the Lower Floridan aquifers as indicated on page 6-15 of the SID. This is consistent with a high leakance coefficient between these two zones. Although no data were collected on the response of the Lake City Formation at the Mobil site, it is believed, based on tests of this zone at Estech, that there was very little effect.

Response W-57

The aquifer values for Well LF-12 are not consistent with the values at the other wells. It is believed that this is due to the proximity of this observation well to the pumping well (500 feet), the partial-penetration effects related to this distance, as well as some local heterogeneity. Well LF-12 was plugged twice, the second time from 1200 to 1000 feet between the

10-day and 3-day tests, as indicated on page 6-31 of the SID. The aquifer coefficients obtained for each test were essentially the same as is described on page 6-31 of the SID. This suggests that the first plugging (1400-1200 feet) was not the cause of the different response of Well LF-12.

Response W-58

The indication that Well LF-12 had only 2.2 feet of drawdown is incorrect. Well LF-12 had 2.9 feet of drawdown as did Well LF-11 (Figures 6-L and 6-N of the SID). Well LF-13 at a distance of 1100 feet from Well LF-6 but to the south, had a drawdown 2.8 feet. This indicates local heterogeneity, and not anisotropy, because similar drawdowns occur at the same distance in two different directions. The drawdown at Well LF-5 was not 2.1 feet but rather was approximately 1.8 feet as shown in Figure 3.4-B of the DEIS.

The geologic logs, geophysical logs and drawdown curves for all of the wells were not placed in the DEIS or SID due to printing limitations. These data are available and a copy has been provided to Dr. Rodney S. DeHan and Don Kell of the FDER Groundwater Section.

Response W-59

Water-quality standards for Class V-B waters are defined by Chapter 17-3.11 of the FAC as those for Class I-B. The constituents listed in this comment are cadmium, chromium, mercury, lead, silver, selenium and gross alpha. Of these seven constituents, only cadmium and gross alpha exceed the Class I-B standards. The other constituents met or were below the standards. A discussion of the water-quality is included in Section 6.1.7 of the SID.

Response W-60

As discussed in Response W-51, dewatering of the "Hawthorne/Tampa" clay is not anticipated as a result of this project.

References

Chepil, W. S. 1958. Soil Conditions that Influence Wind Erosion, U.S. Department of Agriculture, Tech. Bulletin No. 1185.

U.S. EPA. 1978. Final Environmental Impact Statement, Central Florida Phosphate Industry, Volume I, Impacts of Proposed Action.

Wilson, W.E. 1977. Groundwater Resources of De Soto and Hardee Counties, Florida, U.S. Geological Survey Report of Investigation, No. 83.

3.3 HEARING TRANSCRIPT

PUBLIC HEARING
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV

in conjunction with
FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

on

DRAFT ENVIRONMENTAL IMPACT STATEMENT
MOBIL CHEMICAL COMPANY
PROPOSED SOUTH FORT MEADE PHOSPHATE MINE
POLK COUNTY, FLORIDA

OCTOBER 20, 1981
7:30 P.M.

Bartow County Civic Center
2250 Floral Avenue
Bartow, Florida

APPEARANCES:

The Chairman:

Howard D. Zeller, Acting Director
Enforcement Division
U.S. Environmental Protection Agency,
Region IV
Atlanta, Georgia

The Panel:

A. Jean Tolman, Project Officer
EIS Branch, EPA Region IV
Atlanta, Georgia

Lionel Alexander
Consolidated Permits Branch, EPA
Region IV
Atlanta, Georgia

Mickey Bryant, Administrator
NPDES Section
Florida Department of Environmental Regulation
Tallahassee, Florida

GOVERNMENTAL SPEAKERS	TRANSCRIPT PAGE NUMBER
Howard D. Zeller	1, 10, 17
Mickey Bryant	3
A. Jean Tolman	5
Lionel Alexander	8
PUBLIC SPEAKERS	
R. E. Schulz	11
Frank Smith, Jr.	16

MR. ZELLER: Good evening, Ladies and Gentlemen. My name is Howard Zeller and I am the Acting Assistant Regional Administrator of the U.S. Environmental Protection Agency, Region IV, with our headquarters in Atlanta, Georgia.

With me this evening is Mr. Mickey Bryant, from the Department of Environmental Regulation, also Ms. Jean Tolman, who is Project Officer for the Environmental Impact Statement, and on my left, is Mr. Lionel Alexander, who is Environmental Engineer with the permits program. He was instrumental in developing the permit that appears tonight in the EIS.

This evening's hearing will be to address possible actions by EPA with respect to Mobil Chemical Company's proposed phosphate mine and beneficiation plant to be constructed and operated in southern Polk County, Florida.

The hearing is for the purpose of receiving comments on the Draft Environmental Impact Statement, on the proposed issuance of National Pollutant Discharge Elimination System or NPDES permit, and consideration for State Certification of the Permit. Now, under Section 401 of the Clean Water Act, the State of Florida has been requested to certify that the proposed permit will not cause violations of Florida's Water Quality Standards.

The NPDES permit application which we received describes one proposed discharge point from the facility which would discharge from the clear water pond by way of a vegetated drainage swale to the Peace River, near the mouth of Gilshey Branch.

The Federal Water Pollution Control Act, commonly referred to as the Clean Water Act, has an explicit goal for the "elimination of the discharge of pollutants" by 1985. Now, to achieve this goal, the Act created the National Pollutant Discharge Elimination System, a national permit program to control the discharge of pollutants into the nation's waters. Under this permit program, anyone who proposes to discharge wastes into waters of the United States must receive a permit setting limits and conditions on the discharge of pollutants. The permit is the basic regulatory tool for water pollution abatement under Federal law. The applicant must be in compliance with its permit effluent limits upon initiation of its discharge. Any violations of the terms, limits or conditions of the permit will subject the discharger to civil or criminal penalties.

The proposed project was determined by the Regional Administrator of EPA to constitute a "New Source" as that is defined under Section 306 of the Clean Water Act, (33 U.S.C. 1316) requiring issuance of an NPDES permit. We also determined that the issuance of the permit is subject to all the provisions of the National Environmental Policy Act of 1969, and that's 42 U.S. Code 433.

The Draft NPDES Permit proposed for Mobil Chemical Company was prepared by the staff of Region IV, using applicable guidelines and standards for the phosphate mine and beneficiation plant subcategory and Florida Water Quality Standards.

We have made available for distribution this evening, copies of the Public Notice and the Fact Sheet. A few copies of the Draft EIS are available also. These documents, as well as other relevant documentation and all comments received tonight or submitted in writing by November 2, 1981, will become a part of the administrative record of this proceeding. The information in the record will be used in evaluating the Draft Permit and in either preparing a Final Permit or denying the applicant a permit for the proposed discharges. Permit issuance would not occur before release of the Final Environmental Impact Statement. In addition, you should be aware that all public comments on the Mobil Chemical Company facility and the Draft EIS, whether received here tonight and transcribed for the record or submitted in writing directly to the Environmental Protection Agency, will be summarized and will be addressed in the Final Environmental Impact Statement. A copy of the Final Permit will be included in that document.

This hearing is to be an EPA public information hearing and is conducted in accordance with 40 CFR 124.42(b) of our regulations.

Notice of the hearing was published in the Polk County DEMOCRAT and Tampa TRIBUNE. This was done on September 10, 1981. Additionally, copies of the public notice were mailed to individuals and organizations on the EPA mailing list and to all appropriate governmental agencies. A copy was also posted in the Bartow Courthouse for thirty days.

Now, at this time, I would like to ask Mr. Mickey D. Bryant, Florida Department of Environmental Regulation, to make any comments he has relative to the State 401 Certification. Mr. Bryant.

MR. BRYANT: Thank you, Mr. Zeller. I would also like to, on behalf of the State of Florida and Governor Graham and Secretary Tschinkel, welcome everybody to tonight's hearing. The Department of Environmental Regulation is the state agency given the responsibility to process applications for state certification of NPDES permits. Under Section 401 of the Federal Water Pollution Control Act, as amended, requires 402 NPDES and 404 applicants to obtain state certification of their project. The NPDES section of the Department's Bureau of Permitting has been assigned the responsibility for handling state certification activities for Section 402 permits (the NPDES permits). The terms and conditions of state certification are guided by Section 401 of the Act. Section 402 authorizes, I mean, excuse me, Section 401 authorizes the state to evaluate projects requiring Federal permits and to determine whether said projects will comply with Sections 301, 302, 303, 306 and 307 of the Act and with appropriate requirements of state law. In issuing certifications, the Department will, of course, assign terms or conditions under which the project is certified. Requirements of state certifications issued are ultimately attached to and become requirements of the Federal permit.

An applicant, or citizen, may challenge the denial or issuance of state certification through the formal administrative hearing process in the State of Florida in accordance with Chapter 120 of the Florida Statutes and with Chapter 17-1 of the Florida Administrative Code.

Before issuing state certification, the department must, it must have been demonstrated to the department that the project will comply with applicable state and Federal regulations. Among other things, the applicant must have provided reasonable assurance that the proposed project, during all phases of proposed construction, operation, and discharge, will not discharge pollutants in violation of state water quality standards assigned to the receiving stream.

State water quality standards apply at points of discharge unless mixing zones have been obtained in accordance with department rules. Certain minimum criteria also apply within the mixing zone. If there are any water quality parameters in the receiving stream that fail to meet existing state water quality standards, the applicant may need to seek site-specific alternative criteria for those parameters.

The Department has not yet established a position on certification of this proposed new source phosphate mine. Public comments received during tonight's hearing will be reviewed and considered prior to taking final action.

Are there any questions concerning the function the state assumes in the NPDES process? If not, I have no further comments at this time.

MR. ZELLER: Thank you, Mr. Bryant. Next, I'd like to ask Jean Tolman to give us comments relative to the interplay of NEPA in the process of the National Environmental Policy Act and to review the Environmental Impact Statement. Ms. Tolman.

MS. TOLMAN: Thank you, Mr. Zeller, and good evening, ladies and gentlemen. As Mr. Zeller indicated in his opening statement, EPA Region IV has determined that the proposed mining operation constitutes a "new source" as defined in Section 306 of the Clean Water Act. EPA Region IV further determined that issuance of a new source NPDES Permit for the proposed facility would constitute a major Federal action significantly affecting the environment - excuse me - the quality of the human environment and subject to the provisions of the National Environmental Policy Act requiring preparation of an Environmental Impact Statement, or EIS. EPA's Notice of Intent to prepare an EIS for the proposed project appeared in the October 16, 1979 Federal Register, and Notice of Availability of the Draft EIS appeared in the Federal Register on September 18, 1981.

The Mobil Draft EIS was prepared using the so-called third-party EIS process. Under this arrangement, Mobil retained a consultant to prepare the EIS under EPA's close direction. Engineering-Science, Inc. of Atlanta was nominated by Mobil and approved by EPA as the third-party consultant to prepare the Mobil EIS. Ultimate responsibility for the content of the EIS rests with EPA.

The purpose of the EIS is to provide governmental agencies and the public with information to assure that a thorough review of the environmental impacts of the proposed Federal action is included in the decision-making process.

To comply with the goals of the National Environmental Policy Act (abbreviated NEPA), the EIS must:

1. Provide a thorough description of the environmental background and setting;
2. Evaluate all reasonable alternatives which meet project objectives, as well as the no action alternative;
3. Address the environmental impacts of the alternatives; and
4. Identify all potentially adverse impacts and evaluate means to mitigate these impacts.

The Council on Environmental Quality Guidelines for implementing NEPA further specify that an EIS should focus on the major issues associated with a proposed project. The major issues identified with respect to Mobil's proposed mining operation included possible impacts from radiation, impacts to surface water and groundwater quality, the preservation and/or restoration of wetlands, and post-reclamation land use potential. The Mobil EIS accordingly has concentrated on identifying and evaluating alternatives which would serve to minimize adverse effects in these particular areas.

Also, the Final Areawide EIS for the Central Florida Phosphate Industry published by EPA in 1978 contained several recommendations for future phosphate mining operations. These guidelines were kept closely in mind in evaluating Mobil's proposed project and in developing and evaluating alternatives and mitigating measures. The key alternatives addressed in the Mobil EIS were waste disposal plans and reclamation plans as well as the no-action alternative of permit denial. Other alternatives addressed in the EIS, but receiving less emphasis, included location of the beneficiation facility, matrix transport and processing methods, mining methods, sources of water, location of water discharges, and product transport methods.

EPA's recommendations and proposed agency action are embodied in the Draft NPDES Permit contained in the Draft EIS, specifically in the 13 NEPA-generated permit conditions found in the last 6 pages of the Draft Permit. These permit conditions accomplish two purposes. They either 1) enforce the project's planned conformance with the recommendations of the areawide EIS, or 2) require the implementation of alternatives or mitigating measures recommended by EPA. Briefly, conditions 3, 4, 5, 6, 7, 10 and 13 are of the first type and are presented in the same order as the corresponding recommendations given in the areawide EIS. The remaining conditions, developed through the Mobil site-specific EIS, I will discuss briefly at this time.

Condition #1 of the Draft NPDES Permit requires Mobil to adopt the sand/clay cap waste disposal and reclamation plan identified in the Draft EIS as EPA's preferred alternative.

Condition #2 requires Mobil to employ high profile overburden stacking during mining so as to maximize below-ground storage and minimize the reclamation elevation.

Conditions 8 and 9 were developed through consultation with the U.S. Fish and Wildlife Service and provide for the protection of threatened and endangered species on or near the mine property.

Condition #11 requires that Mobil conduct a program to monitor the effectiveness of the planned wetlands restoration and re-creation effort at the proposed South Fort Meade Mine.

Condition #12 requires monitoring of the surficial aquifer within the Bowlegs Creek preserved area and prohibits lowering of the shallow aquifer by more than three feet due to the adjacent mining activities.

Finally, condition #13 is what might be described as a general condition and commits Mobil to carrying out their project in accordance with the plans evaluated in the EIS including all the mitigating measures Mobil identified as being part of their proposed plan.

Thank you for your attention. I will now return the microphone to Mr. Zeller.

MR. ZELLER: Thank you, Ms. Tolman. Next I will ask Lionel Alexander to discuss the NPDES Permit. Mr. Alexander.

MR. ALEXANDER: Thank you, Mr. Zeller. The Draft National Pollutant Discharge Elimination System (NPDES) permit for Mobil Chemical Company was developed by the Permit Processing section of EPA's Consolidated Permits Branch. It is our responsibility to insure that the requirements of the Clean Water Act are carried out.

As Mr. Zeller has stated, the proposed project was determined by the Regional Administrator to be a "new source" under Section 306 of the Clean Water Act. For this reason, the environmental aspects of the project are subject to review procedures specified in the National Environmental Policy Act (NEPA Act). The review process, as Jean Tolman discussed, is directed by our EIS Branch. The NPDES permit issuance process is conducted in conjunction with this review process.

In this regard, effluent guidelines have been published to address the wastewater generated from this facility. However, in some cases, effluent guidelines requirements alone are not enough to protect the integrity of water quality within the receiving stream. This brings me to my discussion of the terms and conditions of the proposed permit. There is a copy of this permit in the back of the Draft EIS that some of you have.

The effluent limits on page I-1 are applicable to wastewater discharges dependent on heavy rainfall events, which will result in a noncontinuous discharge. Discharge 001 will consist of overflow from the waste clay settling area to the Peace River. Effluent guidelines for this industry, Phosphate Rock Subcategory of the Mineral Mining and Process Category, only identify total suspended solids and pH as parameters warranting permit conditions. Suspended solids include both organic and inorganic. Inorganics being sand, silt, and clay. These solids may settle out very rapidly. As I stated before, these effluent guidelines alone will not protect the water quality within the Peace River. The creek is classified as Class III, which is waters suitable for contact recreation and the management and propagation of fish and wildlife; therefore, additional parameters in the draft permit are specific conductance and combined radium 226 and 228. State of Florida - the State of Florida standards for Class III waters require in-stream measurement of specific conductance not to be raised above a maximum level. By the way, specific conductance is a measure of the ability of water to conduct electricity. This measurement can be used to indicate the amount of total dissolved solids or just dissolved solids present. State standards also required the radium limits and the more stringent upper pH limit of 8.5. The effluent guidelines upper pH limit is 9.0.

Also, on page I-2 is a statement which will relieve the company from complying with the Total Suspended Solids and pH permit conditions during a rainfall event which might occur once in 10 years if the treatment facility is constructed to meet certain criteria.

Finally, the permit conditions I have just discussed constitute a principal part of the permit from an NPDES standpoint. However, as previously explained, a "new source" such as Mobil Chemical is subject to additional environmental requirements under NEPA.

Thank you, Mr. Zeller.

MR. ZELLER: Thank you, Mr. Alexander.

Those of you who registered received a copy of the fact sheet intended to give you a short summary of what the permit contains and some of the requirements of the permit. I encourage you to look at that and if you have any questions that develop after this hearing, I hope you will contact me or Mr. Alexander or any one here for any further edification.

This concludes the statements by the involved governmental agencies. We now want to go to the principal purpose of this hearing, which is to receive public comments. A goal of the Clean Water Act and the National Environmental Policy Act is to encourage and provide for public participation in the decision making process for actions authorized by these acts, and to encourage governmental responsiveness to public concerns. We want to promote a greater public awareness of the actions proposed by EPA.

We have asked all of you here to register so that we may have a record of those in attendance, and also so that we can send you a notice of our determination regarding the permit. If you have not already registered and wish to make an oral statement tonight, would you please register your intent at this time.

If you have a lengthy statement, I'd ask that your oral presentation be summarized if at all possible. Your oral presentation should be limited to about 5 minutes, if possible.

Members of this panel may ask questions of persons presenting oral comments where it is felt necessary to clarify the nature or substance of the comments. I would like to emphasize that persons commenting for the record will not be expected nor required to respond to questions from the public.

I would ask that each person making a statement please step to the microphone, which is over there by that podium, state your name and the interest or organization that you represent. This hearing is being recorded and will be made a part of the public record in the Final EIS. In addition to any oral or written comments submitted this evening, the comment period on the Draft EIS will remain open until November 2, 1981. A written record of this hearing and any other comments received will be held as a matter of public record at the regional office of the Environmental Protection Agency in Atlanta.

At this time I would like to recognize the Mobil Chemical Company representative who would like to make a statement regarding the facility, and I believe that's Mr. R. E. Schulz. Mr. Schulz.

MR. SCHULZ: Good evening ladies and gentlemen, my name is R. E. Schulz, I reside in Bartow, Florida and I am employed by Mobil Chemical Company as Venture Manager for the South Fort Meade Mine project. I've lived in Bartow since 1958 and have worked in phosphate mining for the last 23 years.

We welcome this opportunity to appear at this joint hearing as the applicant for the permits that are necessary to operate the proposed South Fort Meade Mine. The issues that we are here to address tonight are part of several areas of government authorizations required under various statutes and regulations for construction and operation of phosphate rock mine. As you have been advised, the Environmental Protection Agency has determined that the project constitutes a "new source" under the Clean Water Act of 1977, and the requirements of the National Environmental Policy Act must, therefore, be met. In addition, the South Fort Meade Mine project has been reviewed under the Florida statutes governing development of regional impacts and both the Central Florida Regional Planning Council and the Polk County Board of County Commissioners have approved the project. Those approvals were granted after public hearings were held by those bodies on August 26, 1981, and September 15, 1981, respectively, in Bartow, Florida.

Mobil Chemical Company and its predecessor companies, the Virginia Carolina Chemical Company, the Phosphate Mining Company, and the Charleston Mining Company have mined phosphate rock in Polk County since the early 1900's. Mobil presently operates two Polk County mines: the Nichols Mine southwest of Mulberry, and the Fort Meade Mine adjacent to the City of Fort Meade. Mobil's present mining operations employ some 570 Floridians and have a combined annual payroll of approximately $15 million. The existing Fort Meade Mine, which started up in 1966, will be exhausted around the year 1988. The proposed South Fort Meade Mine is intended as a replacement for the existing Fort Meade Mine rather than as an extension. The mine will produce approximately 3.5 million tons of phosphate rock per year when fully operational.

Mobil proposes to use proven equipment and process technology utilized by current surface mining operations in central Florida. The phosphate ore will be mined by dragline and transported by pipeline to the plant, where the sand and clay will be separated from phoshate rock by screening and flotation.

The wet rock will be temporarily stored on site and then shipped by rail to the existing preparation facilities located at Nichols. The clay and sand will be stored on site and reclaimed as part of the approved land use plan.

We want to construct and operate the new mine in a manner that will achieve our production goals and minimize adverse impacts on the environment. Therefore, environmental considerations have been a key factor in developing plans for the new mine.

Our mining plan calls for reclamation of all mined land, preserving productive wetland areas on the site, restoration of disturbed wetland acreage, and improving the productive value of the land by providing greater acreage of improved pasture. We will also use the leach zone management technique of mining to reduce the surface radiation levels in reclaimed areas. Water circulation methods will be utilized to reduce water consumption during mining. These are only a few of the 30 environmental mitigation measures discussed in the Environmental Impact Statement that Mobil plans to use to minimize the impacts of the new mine on the environment.

The environmental impact of Mobil's proposed action and alternatives to our proposed action have been evaluated through the EIS process. In each case, except for waste disposal and reclamation, EPA has agreed that Mobil's proposed action has less adverse impact on the environment than the alternatives considered. EPA's preferred waste disposal and reclamation method is the sand/clay cap plan described in the Draft EIS document. According to the EPA evaluation, the sand/clay cap plan has the potential advantages of reducing average dike height, reducing surface radiation levels on reclaimed lands, improving agronomic properties of reclaimed soils, reducing the potential for dam failure, providing more wetland areas, and improving land use potential as compared to Mobil's proposed conventional waste disposal and reclamation plan. These are environmental benefits; however, implementing the sand/clay cap plan does require additional effort and resources. As an example, the sand/clay cap plan would utilize more equipment for handling and transporting the sand and clay, more operating and maintenance labor, and greater energy consumption.

The sand/clay cap method of waste disposal and reclamation has never been practiced on a full-scale basis in the phosphate mining industry. As with any new technique, there are always unforeseen problems that could develop when the plan is put into practice. There may be unforeseen risks and possibly even greater costs than we now envision.

In spite of these risks, Mobil is committed to implementing the sand/clay cap plan as recommended by EPA for the proposed South Fort Meade Mine.

The revised waste disposal/reclamation plan calls for tailings fill in those areas that are primarily in environmentally sensitive areas along the Peace River and Bowlegs Creek, and along roads. Some of these areas should be suitable for buildings in the future. The Plan calls for waste disposal areas to be capped with a mixture of 4 parts sand and 1 part clay to a depth of 4 to 6 feet. This should produce a very productive loamy agricultural soil in the elevated settling areas and be a substantial improvement in waste disposal technology.

Today the predominant on-site economic use is agricultural, principally grazing. Our reclamation plan returns most reclaimed land to improved pasture and other agricultural uses.

The project's contribution to the area in the form of taxes, continued employment of our people, payroll, and other economic contributions to Polk County and the State of Florida are extremely significant.

I would like to re-emphasize that the Mobil project is not an expansion, but rather is a replacement for the existing mine that will allow Mobil to continue in a business that it has been in for over 75 years in Polk County. Approval of the project will give somewhat of a guarantee that better than 200 people will have work at the new mine after 1988. Mobil Chemical Company and the responsible local, state and Federal agencies have thoroughly studied and evaluated the environmental, economic and other consequences of constructing and operating the South Fort Meade Mine. We believe that these evaluations clearly demonstrate that the necessary permits and authorizations should be granted as expeditiously as practicable. We strongly support the issuance and state certification of the National Pollutant Discharge Elimination System Permit and finalization of the Environmental Impact Statement for this facility.

In closing, I would like to note that during the course of the permitting process, we have had the opportunity to deal with various representatives of county, state and Federal government agencies. Without the cooperation of these individuals it is likely that we would not be at the point in the process that we are today. On behalf of Mobil Chemical Company, I would like to publicly express our sincere appreciation to all those individuals who played a role in reviewing the South Fort Meade Mine. Mr. Zeller, that concludes my statement for the evening. Thank you.

MR. ZELLER: Thank you, Mr. Schulz. Let me ask if there is any member of the panel that would like to raise a question at this time. (No response). Thank you very much.

I also have a card from the registration from Pat Kitchen, from Mobil Chemical Corporation, who also asked to make a statement.

MR. KITCHEN: I think all my comments have already been made. Thank you.

MR. ZELLER: Thank you. This is all of the cards that I have as a result of the registration where individuals have indicated that they wanted to make a statement. Is there anyone present who did not so indicate at the registration who would like to make a statement now?

MR. SMITH: I apologize for not filling the card out. The pencil wouldn't write. My name is Frank B. Smith, Jr. and I'm a member of the Board of County Commissioners of Polk County, Florida.

MR. ZELLER: Glad to have you.

MR. SMITH: I have with me, for Ms. Tolman, a copy, a letter signed by the chairman of the Board of County Commissioners that basically confirms that the Board, on September 22, 1981, finally approved the plans of Mobil, through their order and that was after the Central Florida Regional Planning Council had done its work. Those recommendations came to us and those recommendations, along with our planning staff recommendations, were included in that final order. I'm sure that you have gotten a copy of that but I'm going to give you another copy before I leave here. I understand that the plans are, included in those plans are EPA's preferred waste disposal that you have heard many comments about tonight that included the sand/clay cap.

We note, and Mobil officials have told us, that they understand the technologies and that they understand and agree that any new technology that comes down the pike in the next 15 or 20 years that the proposal will be running, that they will address themselves to those technologies and do, if they can, those new things that we hope will eventually get done with clay settling areas. They are also going to study the wetlands restoration. They are going to do a pilot project to be sure that, you know, they can do it almost as good as God can do it. We are not sure that they can, but we appreciate very much their committment to do that. We know that the clays will be, will be on the interior of that property and will not be along Mt. Pisgah Road, not along the Peace River, where, quite frankly, we are going to have people live one day and we appreciate that. In short, I would like to give you this letter, signed by the chairman, that outlines many of those comments and thank you for coming and having this presentation.

MR. ZELLER: Thank you. Thank you for your comments. Those are important to us in the course of this hearing.

Is there anyone else who would like to make a statement at this time? (No response). Well, if not, let me go ahead and close out the hearing. I want to thank you for your attendance, for your participation.

The record of this hearing and comment period will remain open through the close of business on November 2, 1981. This will allow anyone wishing to submit additional statements sufficient time to do so, I believe. Further submissions to be included in the official record must be in writing and they should be sent to the attention of Jean Tolman, EIS Branch, EPA, Region IV, 345 Courtland St, N.E., Atlanta, Georgia 30365.

The company will have to agree to comply with all EIS-related NPDES permit conditions, and only construction activities of a reversible nature will be allowed. The text of any agreement that we might work out has not yet been finalized pending comments at this hearing which may affect some of those conditions imposed by the Environmental Impactment Statement.

After consideration of all the written comments and of the requirements and policies in the Act and appropriate regulations, the EPA Regional Administrator will make determinations regarding permit issuance. If the determinations are substantially unchanged, the Regional Administrator will so notify all persons making oral statements tonight and all persons submitting written comments. If the determinations are substantially changed, the Regional Administrator will issue public notice indicating the revised determinations.

Now, within 30 days of receipt of the final determination or the date of the public notice, any interested party may request an evidentiary hearing on the EPA determination.

Requests for an evidentiary hearing should be addressed to the EPA Regional Hearing Clerk for Region IV. The procedures for filing evidentiary hearing requests are set out in Title 40, Code of Federal Regulations. Please note that any issues posed by an evidentiary hearing request must have previously been raised by the requestor during the public comment period or at the public hearing.

Unless a request for an evidentiary hearing is granted, our determination will be the final action of the Environmental Protection Agency.

Pending final agency action on an evidentiary hearing concerning this facility which is granted by the Regional Administrator, the applicant would be without a permit, as the project for which the permit has been applied for is, of course, a new source, as we mentioned several times tonight.

The record upon which the determination to issue is made will include both comments received at this hearing and received in response to the public notice. The Final Permit will be issued no sooner than thirty days after issuance of the Final Environmental Impact Statement, in accordance with 40 CFR 124.61.

Again, let me thank you for your participation in this hearing tonight, and as there are no further comments, I now declare this hearing closed.

(Hearing concluded)

3.4 RESPONSES TO TRANSCRIPT COMMENTS

RESPONSE T-1

No response is required.

RESPONSE T-2

No response is required. The material provided appears as written comment W-10.

4.0 FINAL ENVIRONMENTAL IMPACT STATEMENT COORDINATION LIST

The following Federal, state and local agencies, public officials, organizations, and interested groups have been requested to comment on this impact statement.

Federal Agencies

Bureau of Mines
Coast Guard
Corps of Engineers
Council on Environmental Quality
Department of Agriculture
Department of Commerce
Department of Education
Department of Interior
Department of Transportation
Department of Health and Human Services
Department of Housing and Urban Development
Department of Energy
Federal Highway Administration
Fish and Wildlife Service
Food and Drug Administration
Forest Service
Geological Survey
National Park Service
Economic Development Administration
Soil Conservation Service

Members of Congress

Honorable Lawton Chiles
United States Senate
Honorable Sam Gibbons
U.S. House of Representatives
Honorable L.A. Bafalis
U.S. House of Representatives
Honorable Paula Hawkins
United States Senate
Honorable Andy P. Ireland
U.S. House of Representatives

State of Florida

Honorable D. Robert Graham
Governor
Department of Natural Resources
Department of Agriculture and Consumer Services
Department of Community Affairs
Game and Freshwater Fish Commission
Department of Administration
Department of State
Environmental Regulation Committee
Department of Commerce
Department of Health and Rehabilitative Services
Department of Environmental Regulation
Department of Transportation

Local and Regional

Polk County Commission
Manatee County Commission
Sarasota County Commission
Hardee County Commission
Polk County Health Department
Polk County Building and Zoning Department
City of Bartow
Tampa Port Authority
Central Florida Regional Planning Council
Southwest Florida Water Management District
Hardee County Zoning and Building Department

Interested Groups

The Fertilizer Institute
Florida Phosphate Council
Florida Audubon Society
Florida Sierra Club
Manasota 88
Florida Defenders of the Environment
Izaak Walton League of America
Florida Wildlife Federation

5.0 LIST OF PREPARERS

The following EPA officials participated in developing this EIS.

Name	Responsibility
A. Jean Tolman	EIS Project Officer
Lionel Alexander, III	NPDES Permit Coordinator
D. Brian Mitchell	Air Quality
Louis Nagler	Air Quality
Doyle Brittain	Air Quality
James E. Orban	Noise
A. Eugene Coker	Geology and Groundwater
H. Richard Payne	Radiation
Curtis F. Fehn	Groundwater
Thomas R. Cavinder	Surface Water
John T. Marlar	Surface Water
William L. Kruczynski	Biology and Ecology
Delbert B. Hicks	Biology and Ecology

For information on the material presented in this section, contact A. Jean Tolman at (404) 881-7458 (FTS/257-7458).

The EIS for the Mobil South Fort Meade project was prepared by EPA with consultant assistance from Engineering-Science, Inc. (ES) of Atlanta, Georgia, using the third-party EIS preparation method. The names and qualifications of the ES project team on this EIS are presented in Table 5.0-1. Data presented in the EIS were gathered as a joint effort by the U.S. Environmental Protection Agency, Mobil Chemical Company, and the consultants listed in Table 5.0-2. ES was responsible for evaluating the plans and quality assurance provisions of the data gathering consultants. The data were provided to ES in an uninterpreted form.

TABLE 5.0-1

NAMES, RESPONSIBILITIES, AND QUALIFICATIONS OF PERSONS PRIMARILY RESPONSIBLE FOR PREPARING THE MOBIL ENVIRONMENTAL IMPACT STATEMENT

Name	Responsibility	Qualifications
Andrew W. Loven	Principal-in-Charge	Ph.D. Physical Chemistry; Principal and Group Vice President, Engineering-Science, Inc., 21 years experience including the direction of interdiscipline studies for environmental assessments and industrial facility siting studies.
Thomas N. Sargent	Project Director	M.S. Environmental Engineering; Associate and Manager of Engineering Development, Engineering-Science, Inc., 14 years experience in the direction of interdiscipline studies with emphasis in environmental studies and permit preparation.
Ernest J. Schroeder	Project Manager	M.S. Civil Environmental Engineering; Associate, Engineering-Science, Inc., 14 years experience in environmental studies with emphasis in plant siting and development of pollution abatement programs for industrial facilities.
Brian D. Moreth	Deputy Project Manager	B.S. Forest Science and B.S. Zoology; Project Scientist, Engineering-Science, Inc., 10 years experience in the preparation of environmental impact statements for a wide variety of projects including phosphate mines.
J. Kenneth Allison	Air Quality, Meteorology	M.S. Meteorology; Senior Meteorologist/Scientist, Engineering-Science, Inc., 28 years experience in environmental studies including meteorology, air quality and air diffusion including impact studies.
Frank R. Grum	Geology and Groundwater	B.S. Geology; Vice President and Director, Leggette, Brashears and Graham, Inc., 22 years experience in geological investigations and groundwater studies for projects including phosphate mining operations investigations.
Earnest F. Gloyna	Radiation	Dr. Eng. Sanitary Engineering and Water Resources; Special Consultant, Engineering-Science, Inc., 35 years experience in waste management including radioactive waste disposal consulting with National Academy of Sciences.
Benjiman W. Breedlove	Biology	M.S.P.H. Public Health and Environmental Biology; Principal, Breedlove Associates, Inc., 12 years experience in biological research studies including aquatic ecology, limnology, terrestrial ecology, water quality evaluations and ecosystem analyses.
Lial F. Tischler	Surface Water Radiation	Ph.D. Civil (Environmental Health) Engineering; Principal and Vice President, Engineering-Science, Inc., 17 years experience in water quality modeling and impact assessment, evaluation of radiological health impacts.
T.M. Gurr	Reclamation and Mine Plan Evaluation	M.A., Geology; Associate Scientist, Dames and Moore, 15 years experience in geological and mining studies in the Central Florida Phosphate District including mine planning, exploration, reclamation, economic geology and environmental permitting.
Stephen C. Neeley	Human Resources	B.L.S. Environmental Management; Staff Scientist, Engineering-Science, Inc., 4 years experience in socio-economic (human resources) analyses prep-aration as part of comprehensive environmental studies.
Ruth E. Maclin	Editor	B.A. English; Editor, Engineering-Science, Inc., 3 years experience editing reports, manuals, and selected publications.

TABLE 5.0-2

ORGANIZATIONS RESPONSIBLE FOR GATHERING THE BASIC DATA USED IN PREPARING THE MOBIL ENVIRONMENTAL IMPACT STATEMENT*

ORGANIZATION	AREA(S) OF RESPONSIBILITY
Dames & Moore Lakeland, FL	Surface Water Soils and Geology
Geraghty & Miller, Inc. Tampa, FL	Groundwater
Post, Buckley, Schuh & Jernigan Orlando, FL	Groundwater Radiation
NUS Corporation Rockville, MD	Human Resources Archaeology
Water and Air Research, Inc. Gainesville, FL	Biology
Zellars-Williams, Inc. Lakeland, FL	Soils and Geology
Environmental Science and Engineering, Inc. Gainesville, FL	Air

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*The data gathering effort was overseen by Engineering-Science, Inc. of Atlanta, Georgia, the third-party consultant working under the direction of the U.S. Environmental Protection Agency.

6.0 APPENDIX

6.1 Letter from Florida State Museum

THE FLORIDA STATE MUSEUM
UNIVERSITY OF FLORIDA

DEPARTMENT OF NATURAL SCIENCES

the florida
state museum
museum road
university
of florida
gainesville
32611
904/392-1721

August 10, 1981

Ms. A. Jean Tolman
U.S. Environmental Protection
Agency
EIS Branch
345 Courtland Street, NE
Atlanta, Georgia 30365

Dear Ms. Tolman:

On several occasions recently, we have received inquiries as to the paleontological resources of the phosphatic sediments of the Bone Valley Mining District of central Florida. To date this district has been centered in Polk and Hillsborough counties, but now, as you know, it is rapidly extending southward into Manatee, Hardee, and Sarasota counties. In view of this pattern of activity, I believe it may be worth stating directly to you the paleontological importance of this area.

The Bone Valley District has produced a rich series of samples of fossil vertebrates ranging in age from late Miocene through late Pleistocene. The importance of these samples stems from the fact that for most ages they are among the richest in eastern North America. They are also important for their ecological relationships which span from terrestrial through estuarine to marine habitats. The basic outline of this rich series of fossil samples had been established by 1930 (see especially Simpson, 1930). Nonetheless, many new discoveries have been added in recent years (e.g. Webb 1973; MacFadden and Waldrop, 1980). And, so great is the potential of this area, according to the judgement of paleontologists, that two current grants from the National Science Foundation feature new collecting efforts throughout the marine and terrestrial sediments of the Bone Valley District (NSF grants to Daryl Domning, Howard University, 1981; Webb and MacFadden, University of Florida, 1979). Thus, there is every reason to expect important paleontological discoveries in this district.

In the newer southern extension of this district, there is only a limited basis for predicting exact locations of fossil concentrations. The few exposures that have occurred, such as the Manatee County Dam Site (Webb and Tessman, 1968), have encouraged great expectations. In general, the phosphatic formations are widespread laterally, so that the few known localities probably are generally indicative of fossiliferous terrain.

A UNIVERSITY MUSEUM WITH RESEARCH EMPHASIS ON CARIBBEAN NATURAL AND SOCIAL HISTORY

EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

For these reasons we strongly urge that any environmental impact statements in the Bone Valley Phosphate Mining District or its southward extensions in Hardee, Manatee, and Sarasota counties, be required to take into account the potential for valuable paleontological resources.

If you wish to discuss these matters further, please let us know.

Sincerely yours,

S. David Webb and Bruce J. MacFadden
Curators of Fossil Vertebrates
Florida State Museum

References Cited:

MacFadden, B.J. and J.S. Waldrop. 1980. *Nannippus phlegon* (Mammalia, Equidae) from the Plio-Pleistocene (Blancan) of Florida. *Bulletin Florida State Museum, Biological Sciences*, vol. 25,

Simpson, G.G. 1930. Tertiary Land Mammals of Florida. Bull. Amer. Mus. Nat. Hist., *59*:149-211.

Webb, S.D. 1973. Pliocene Pronghorns of Florida. Journal of Mammalogy. *54*:203-221.

Webb, S.D. and N. Tessman. 1968. A Pliocene vertebrate fauna from Manatee County, Florida. American Journal of Science, 266:777-811.

SDW:BJM:map

6.2 Draft NPDES Permit

Permit No.: FL0037958

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et. seq; the "Act"),

Mobil Chemical Co. - South Fort Meade Mine

is authorized to discharge from a facility located at

Latitude - 27° 39' 26"

Longitude - 81° 46' 08"

DRAFT

to receiving waters named

The Peace River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof. The permit consists of this cover sheet, Part I 3 pages(s), Part II 12 page(s) and Part III 6 page(s).

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Date Signed

Paul J. Traina
Director
Water Management Division

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from outfall(s) serial number(s) 001 - process generated wastewater.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency (during discharge)	Sample Type
Flow—m³/Day (MGD)	—	—	—	—	Continuous**	Recorder
Total Suspended Solids	--	--	30 mg/1	60 mg/1	1/week	Composite
Specific Conductance	--	--	550 µmhos/cm	1000 µmhos/cm	1/week	Composite
Radium*	--	--	5 pci/1	10 pci/1	1/week	Composite

*Combined Radium 226 & 228

The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units and shall be monitored once per week with a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

**The discharge flow shall not exceed 20 percent the flow in the Peace River.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Any overflow from facilities designated, constructed and maintained to contain or treat the volume of wastewater which would result from a "10-year, 24-hour precipitation event shall not be subject to the suspended solids limitation or the pH limitation listed on the preceeding pages. Monitoring and reporting shall be required for all other parameters.

The effluent limits and any additional requirements specified in the state certification supersede any less stringent effluent limits listed above. During any time period in which more stringent state certification effluent limits are stayed or inoperable, the effluent limits listed above shall be in effect and fully enforceable.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

    2. The permittee shall comply with the effluent limits by the effective date of the permit.

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

A. MANAGEMENT REQUIREMENTS

1. Discharge Violations

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit constitutes a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil and/or criminal penalties as provided in Section 309 of the Act.

2. Change in Discharge

Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to commencement of such discharge. Any other activity which would constitute cause for modification or revocation and reissuance of this permit, as described in Part II (B) (4) of this permit, shall be reported to the Permit Issuing Authority.

3. Noncompliance Notification

a. Instances of noncompliance involving toxic or hazardous pollutants should be reported as outlined in Condition 3c. All other instances of noncompliance should be reported as described in Condition 3b.

b. If for any reason, the permittee does not comply with or will be unable to comply with any discharge limitation specified in the permit, the permittee shall provide the Permit Issuing Authority with the following information at the time when the next Discharge Monitoring Report is submitted.

    (1) A description of the discharge and cause of noncompliance;
    (2) The period of noncompliance, including exact dates and times and/or anticipated time when the discharge will return to compliance; and
    (3) Steps taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

c. Toxic or hazardous discharges as defined below shall be reported by telephone within 24 hours after permittee becomes aware of the circumstances and followed up with information in writing as set forth in Condition 3b. within 5 days, unless this requirement is otherwise waived by the Permit Issuing Authority:

(1) Noncomplying discharges subject to any applicable toxic pollutant effluent standard under Section 307(a) of the Act;
(2) Discharges which could constitute a threat to human health, welfare or the environment. These include unusual or extraordinary discharges such as those which could result from bypasses, treatment failure or objectionable substances passing through the treatment plant. These include Section 311 pollutants or pollutants which could cause a threat to public drinking water supplies.

d. Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

4. Facilities Operation

All waste collection and treatment facilities shall be operated in a manner consistent with the following:

a. The facilities shall at all times be maintained in a good working order and operated as efficiently as possible. This includes but is not limited to effective performance based on design facility removals, adequate funding, effective management, adequate operator staffing and training, and adequate laboratory and process controls (including appropriate quality assurance procedures); and

b. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during noncritical water quality periods and carried out in a manner approved by the Permit Issuing Authority.

c. The permittee, in order to maintain compliance with this permit shall control production and all discharges upon reduction, loss, or failure of the treatment facility until the facility is restored or an alternative method of treatment is provided.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the United States resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature of the noncomplying discharge.

6. Bypassing

"Bypassing" means the intentional diversion of untreated or partially treated wastes to waters of the United States from any portion of a treatment facility. Bypassing of wastewaters is prohibited unless all of the following conditions are met:

a. The bypass is unavoidable-i.e. required to prevent loss of life, personal injury or severe property damage;

b. There are no feasible alternatives such as use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time;

c. The permittee reports (via telephone) to the Permit Issuing Authority any unanticipated bypass within 24 hours after becoming aware of it and follows up with written notification in 5 days. Where the necessity of a bypass is known (or should be known) in advance, prior notification shall be submitted to the Permit Issuing Authority for approval at least 10 days beforehand, if possible. All written notifications shall contain information as required in Part II (A)(3)(b); and

d. The bypass is allowed under conditions determined to be necessary by the Permit Issuing Authority to minimize any adverse effects. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration to the extent feasible.

This requirement is waived where infiltration/inflow analyses are scheduled to be performed as part of an Environmental Protection Agency facilities planning project.

7. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the United States.

8. Power Failures

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures either by means of alternate power sources, standby generators or retention of inadequately treated effluent. Should the treatment works not include the above capabilities at time of permit issuance, the permittee must furnish within six months to the Permit Issuing Authority, for approval, an implementation schedule for their installation, or documentation demonstrating that such measures are not necessary to prevent discharge of untreated or inadequately treated wastes. Such documentation shall include frequency and duration of power failures and an estimate of retention capacity of untreated effluent.

9. Onshore or Offshore Construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any waters of the United States.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Permit Issuing Authority and/or authorized representatives (upon presentation of credentials and such other documents as may be required by law) to:

a. Enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit;

b. Have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;

c. Inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

d. Inspect at reasonable times any collection, treatment, pollution management or discharge facilities required under the permit; or

e. Sample at reasonable times any discharge of pollutants.

2. Transfer of Ownership or Control

A permit may be transferred to another party under the following conditions:

a. The permittee notifies the Permit Issuing Authority of the proposed transfer;

b. A written agreement is submitted to the Permit Issuing Authority containing the specific transfer date and acknowledgement that the existing permittee is responsible for violations up to that date and the new permittee liable thereafter.

Transfers are not effective if, within 30 days of receipt of proposal, the Permit Issuing Authority disagrees and notifies the current permitttee and the new permittee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act, (33 U.S.C. 1318) all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Permit Issuing Authority. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act (33 U.S.C. 1319).

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, terminated or revoked for cause (as described in 40 CFR 122.15 et seq) including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either temporary interruption or elimination of the permitted discharge; or

d. Information newly acquired by the Agency indicating the discharge poses a threat to human health or welfare.

If the permittee believes that any past or planned activity would be cause for modification or revocation and reissuance under 40 CFR 122.15 et seq, the permittee must report such information to the Permit Issuing Authority. The submission of a new application may be required of the permittee.

5. Toxic Pollutants

   a. Notwithstanding Part II (B)(4) above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

   b. An effluent standard established for a pollutant which is injurious to human health is effective and enforceable by the time set forth in the promulgated standard, even though this permit has not as yet been modified as outlined in Condition 5a.

6. Civil and Criminal Liability

   Except as provided in permit conditions on "Bypassing", Part II (A) (6), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. Oil and Hazardous Substance Liability

   Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act (33 U.S.C. 1321).

8. State Laws

   Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Sectiom 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

10. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

11. Permit Continuation

A new application shall be submitted at least 180 days before the expiration date of this permit. Where EPA is the Permit Issuing Authority, the terms and conditions of this permit are automatically continued in accordance with 40 CFR 122.5, provided that the permittee has submitted a timely and sufficient application for a renewal permit and the Permit Issuing Authority is unable through no fault of the permittee to issue a new permit before the expiration date.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

Monitoring results obtained during each calendar month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1). Forms shall be submitted at the end of each calendar quarter and shall be postmarked no later than the 28th day of the month following the end of the quarter. The first report is due by the 28th day of the month following the first full quarter after the effective date of this permit.

Signed copies of these, and all other reports required herein, shall be submitted to the Permit Issuing Authority at the following address(es):

Permit Compliance Branch
Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Florida Department of Environmental Regulation
Division of Environmental Programs
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

3. Test Procedures

Test procedures for the analysis of pollutants shall conform to all regulations published pursuant to Section 304(h) of the Clean Water Act, as amended (40 CFR 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants").

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The person(s) who obtained the samples or measurements;

c. The dates the analyses were performed;

d. The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses.

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

6. Records Retention

The permittee shall maintain records of all monitoring including: sampling dates and times, sampling methods used, persons obtaining samples or measurements, analyses dates and times, persons performing analyses, and results of analyses and measurements. Records shall be maintained for three years or longer if there is unresolved litigation or if requested by the Permit Issuing Authority.

D. DEFINITIONS

1. Permit Issuing Authority

The Regional Administrator of EPA Region IV or designee.

2. Act

"Act" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) Public Law 92-500, as amended by Public Law 95-217 and Public Law 95-576, 33 U.S.C. 1251 et seq.

3. Mass/Day Measurements

a. The "average monthly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during such month. It is, therefore, an arithmetic mean found by adding the weights of the pollutant found each day of the month and then dividing this sum by the number of days the tests were reported. This limitation is identified as "Daily Average" or "Monthly Average" in Part I of the permit and the average monthly discharge value is reported in the "Average" column under "Quantity" on the Discharge Monitoring Report (DMR).

b. The "average weekly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and/or measured divided by the number of daily discharges sampled and/or measured during such week. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the week and then dividing this sum by the number of days the tests were reported. This limitation is identified as "Weekly Average" in Part I of the permit and the average weekly discharge value is reported in the "Maximum" column under "Quantity" on the DMR.

c. The "maximum daily discharge" is the total mass (weight) of a pollutant discharged during a calendar day. If only one sample is taken during any calendar day the weight of pollutant calculated from it is the "maximum daily discharge". This limitation is identified as "Daily Maximum," in Part I of the permit and the highest such value recorded during the reporting period is reported in the "Maximum" column under "Quantity" on the DMR.

4. Concentration Measurements

   a. The "average monthly concentration," other than for fecal coliform bacteria, is the concentration of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during such month (arithmetic mean of the daily concentration values). The daily concentration value is equal to the concentration of a composite sample or in the case of grab samples is the arithmetic mean (weighted by flow value) of all the samples collected during that calendar day. The average monthly count for fecal coliform bacteria is the geometric mean of the counts for samples collected during a calendar month. This limitation is identified as "Monthly Average" or "Daily Average" under "Other Limits" in Part I of the permit and the average monthly concentration value is reported under the "Average" column under "Quality" on the DMR.

   b. The "average weekly concentration," other than for fecal coliform bacteria, is the concentration of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during such week (arithmetic mean of the daily concentration values). The daily concentration value is equal to the concentration of a composite sample or in the case of grab samples is the arithmetic mean (weighted by flow value) of all samples collected during that calendar day. The average weekly count for fecal coliform bacteria is the geometric mean of the counts for samples collected during a calendar week. This limitation is identified as "Weekly Average" under "Other Limits" in Part I of the permit and the average weekly concentration value is reported under the "Maximum" column under "Quality" on the DMR.

   c. The "maximum daily concentration" is the concentration of a pollutant discharged during a calendar day. It is identified as "Daily Maximum" under "Other Limits" in Part I of the permit and the highest such value recorded during the reporting period is reported under the "Maximum" column under "Quality" on the DMR.

5. Other Measurements

   a. The effluent flow expressed as M^3/day (MGD) is the 24 hour average flow averaged monthly. It is the arithmetic mean of the total daily flows recorded during the calendar month. Where monitoring requirements for flow are specified in Part I of the permit the flow rate values are reported in the "Average" column under "Quantity" on the DMR.

   b. Where monitoring requirements for pH, dissolved oxygen or fecal coliform are specified in Part I of the permit the values are generally reported in the "Quality or Concentration" column on the DMR.

6. Types of Samples

   a. Composite Sample - A "composite sample" is any of the following:

      (1) Not less than four influent or effluent portions collected at regular intervals over a period of 8 hours and composited in proportion to flow.

      (2) Not less than four equal volume influent or effluent portions collected over a period of 8 hours at intervals proportional to the flow.

      (3) An influent or effluent portion collected continuously over a period of 24 hours at a rate proportional to the flow.

   b. Grab Sample: A "grab sample" is a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the total discharge.

7. Calculation of Means

   a. Arithmetic Mean: The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

   b. Geometric Mean: The geometric mean of any set of values is the $N^{\underline{th}}$ root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

c. Weighted by Flow Value: Weighted by flow value means the summation of each concentration times its respective flow divided by the summation of the respective flows.

8. Calendar Day

a. A calendar day is defined as the period from midnight of one day until midnight of the next day. However, for purposes of this permit, any consecutive 24-hour period that reasonably represents the calendar day may be used for sampling.

PART III

OTHER REQUIREMENTS

A. In accordance with Section 306(d) of the Federal Water Pollution Control Act (PL 92-500) the standards of performance for conventional Pollutions as contained in this permit shall not be made any more stringent during a ten year period beginning on the date of completion of construction or during the period of depreciation of amortization of such facility for the purposes of Section 167 or 169 (or both) of the Internal Revenue Code of 1954, whichever period ends first. The provisions of Section 306(d) do not limit the authority of the Environmental Protection Agency to modify the permit to require compliance with a toxic effluent limitation. Promulgated under BAT or Toxic Pollutant Standard established under Section 307(a) of the FWPCA.

B. National Environmental Policy Act (NEPA) Requirements

The below listed requirements, conditions and limitations were recommended in the site specific Environmental Impact Statement for the Mobil Chemical Company South Fort Meade Mine, and are hereby incorporated into National Pollutant Discharge Elimination System Permit No. FL0037958 in accordance with 40 CFR 122.62(d)(9).

1. Mobil shall employ the sand/clay cap waste disposal plan and the sand/clay cap reclamation plan described in the EIS and identified as EPA's preferred alternatives for waste disposal and reclamation.

2. Mobil shall employ high profile overburden stacking in the mining of the area covered by Clay Settling Area 10 (CS-10) to the maximum extent compatible with toe spoiling of the leach zone. If any increase in waste storage volume is realized by the use of this technique, it shall be reflected in a lower reclaimed elevation for the area rather than an increase in clay storage within CS-10.

3. Mobil shall meet the requirements of its Southwest Florida Water Management District (SWFWMD) Consumptive Use Permit.

4. Mobil shall provide storage that allows recirculation of water recovered from slimes. The water circulation system and storage capacity shall be as described in the EIS for Mobil's proposed project.

5. During the dragline mining activity, Mobil shall, in accordance with its proposed action in the EIS, employ the technique of leach zone management by toe spoiling, i.e., overburden from near the interface with the matrix shall be placed at the toe of the spoil pile and covered with overburden from upper strata.

6. Mobil shall meet county and state reclamation requirements. Mobil shall contact the District Forester or the State Forester, Florida Forest Service, for assistance in the forestry aspects of the reclamation program.

7. Mobil shall preserve from mining, or any other disturbance not essential to and unavoidable for the mining operation, the areas designated for preservation in Mobil's proposed action in the EIS. Specifically, the total of 1094 acres thus preserved shall include a minimum of 182 acres of cutover flatwoods, 664 acres of upland hardwood forest, 5 acres of upland mixed forest, 111 acres of freshwater swamp, and 21 acres of freshwater marsh, all in the locations depicted in the attached Figure 1.

8. Before beginning any land-disturbing activities, Mobil shall develop a program whereby indigo snakes encountered in the work area are captured and turned over to the FGFWFC Endangered Species Coordinator for relocation to other suitable habitats in the region. (The technique for handling and keeping this species until the FGFWFC arrives is to place the snake in a cloth sack, out of the sun, preferably in an air conditioned building.) The program shall include informing Mobil workers of the importance of the indigo snake, familiarizing them with its appearance and instructing them as to its preservation. In addition, the gopher tortoise population in the site area shall be protected to the extent possible. Mobil shall maintain a record of the program to be submitted to the U.S. Fish and Wildlife Service office in Jacksonville, Florida.

9. Mobil shall not conduct any mining, or any activity associated with its mining operation, within 1500 feet in any direction of the bald eagle nest located in T32S, R26E, Section 9. Beginning four years prior to site preparation activities preceding mining of the areas closest to the eagle nest (to the east, south and west), Mobil shall provide for a field study to be performed by a qualified biologist to determine the area(s) being utilized for feeding by the eagles. Observations shall be conducted from January 1st through April 15 of the specified year. Since young may or may not be produced in any given year,

Mobil shall attempt to provide data for at least one successful nestling period during the referenced four years. Specifics of the study shall be coordinated with and reviewed by the USF&WS office in Jacksonville, Florida. If it appears at the onset of the study year that the subject eagle nest is no longer in existence, that fact must be confirmed by a letter from the USF&WS. If the results of the study reveal that the eagles are utilizing an area on the Mobil property for feeding, Mobil shall preserve that area from disturbance.

10. Mobil shall comply with the categorization of wetlands present on the mine property as set forth in the EIS and illustrated in Figure 2, attached. In summary, within Category 1 wetlands, Mobil shall not mine, shall limit activities to those essential to and unavoidable for the mining operation, and shall otherwise take all reasonable measures to preserve all Category 1 wetlands. In addition, Mobil shall restore the total acreage of Category 2 wetlands disturbed by mining.

11. Mobil shall conduct a monitoring program to assess the wetlands restoration and re-creation effort at the South Fort Meade Mine. Three wetland re-creation areas (a depression wetland in sand/clay capped area CS-1, the reforested stream channel of Maron Run, and the forested wetland in sand/clay capped area CS-14) shall be monitored for one year according to the following program: (1) Beginning 12 weeks after completion of the reclamation of each respective area, the water level shall be monitored biweekly; and (2) Following the first full growing season, a biological assessment shall be performed by a degreed biologist for each of the three areas; the assessment shall include a listing of wetland plant species present, mapping of their location, a visual estimate of the amount of cover provided by the wetland species, and sampling of the benthic macroinvertebrates to yield a list of the species collected and their density. After the above-described monitoring program is performed for both the sand/clay depression area and the forested stream channel, one area shall be selected by EPA for long-term monitoring by Mobil. This long-term monitoring program shall consist of a yearly biological assessment by a degreed biologist to include the items in (2) above. In addition, in order to determine the degree of subsidence occurring, if any, the maximum depth of the marsh depression area relative to a fixed elevation point shall be monitored quarterly for the life of this permit. Mobil shall submit annual reports of the described monitoring program to the EPA Region IV Ecology Branch.

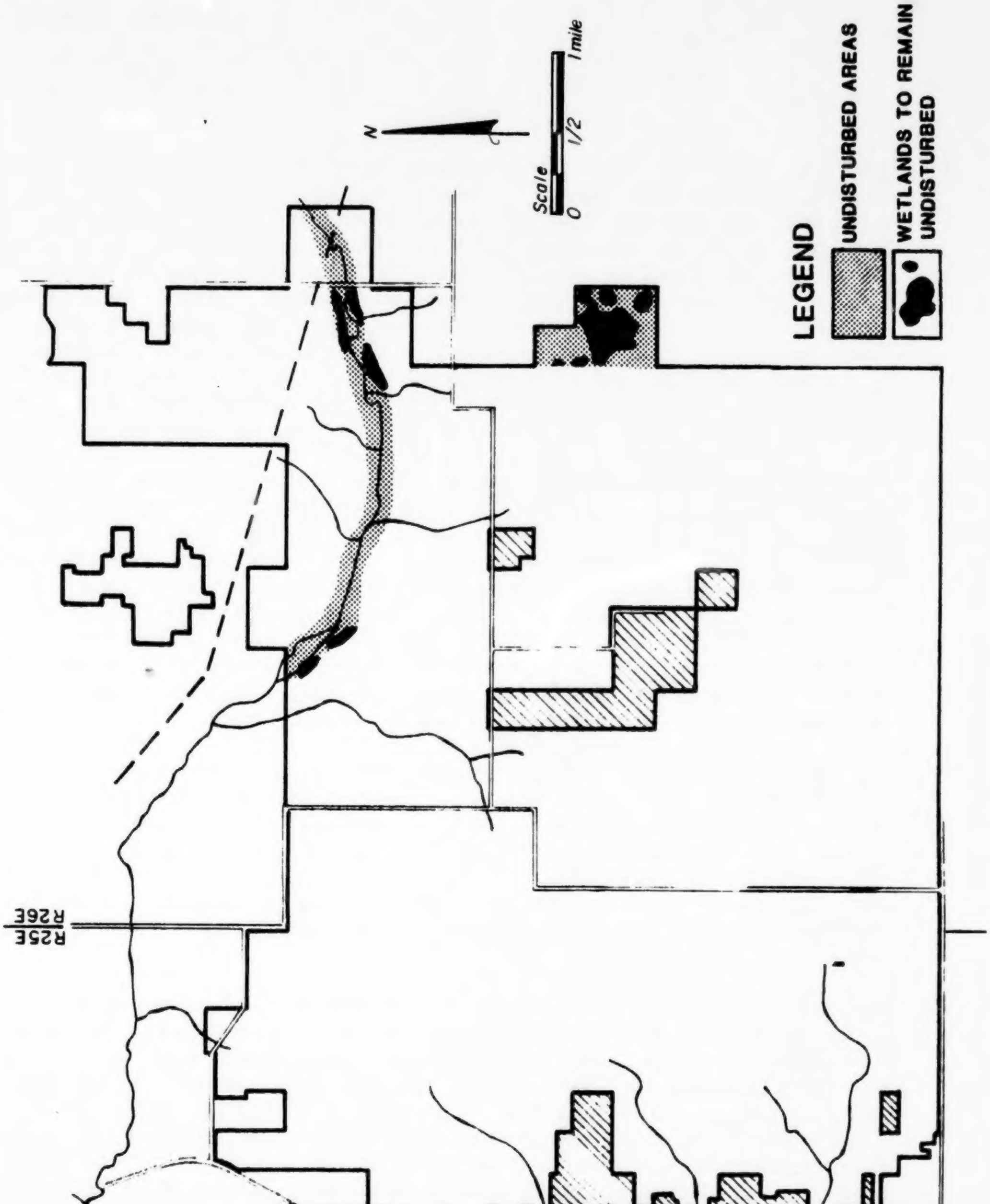
12. During the mining activities conducted near the Bowlegs Creek preserved area, Mobil shall monitor the Shallow Aquifer to assess the effectiveness of the perimeter ditch in preventing dewatering of the preserved area. This monitoring program shall consist of using the existing well #SA-3 to perform weekly manual water level measurements during the first sixteen weeks of mining near Bowlegs Creek and monthly thereafter until the mining pit immediately adjacent to the preserved area is closed. Mobil shall not allow the Shallow Aquifer in this preserved area to be lowered more than three feet due to the mining activites.

13. Mobil shall provide bona fide researchers reasonable opportunity to salvage paleontological specimens and information for the duration of mining operations on the Mobil site. Prospective collectors availing themselves of this provision must have credentials verified by the Florida State Museum. Such individuals shall be allowed regular entry to accessible dragline spoil windrows and ore residue sites, on a strictly not-to-interfere with mining basis. Such individuals must furnish current certificates of compliance with the training requirements of the Federal Mine Safety and Health Act of 1977, P.L. 91-173 as amended by P.L. 95-164. Such training shall be equal to that required in the act for the category of Miner. Further, such individuals that avail themselves of this provision shall be subject to Mobil's requirements for safety and visitor accountability. Failure to comply with any of the requirements set forth in this provision will result in the revocation of the individual's access privilege as granted under this provision.

14. Unless specified otherwise by a preceding condition in this permit, Mobil shall perform its mining project in complete accordance with the applicant's proposed action described and evaluated in the Mobil South Fort Meade Mine EIS and Supplemental Information Document (SID), including the employment of all mitigating measures presented as part of the proposed action. However, this shall not preclude the imposition of any additional or more stringent conditions which may be required by any local or state regulatory agency or governmental entity.

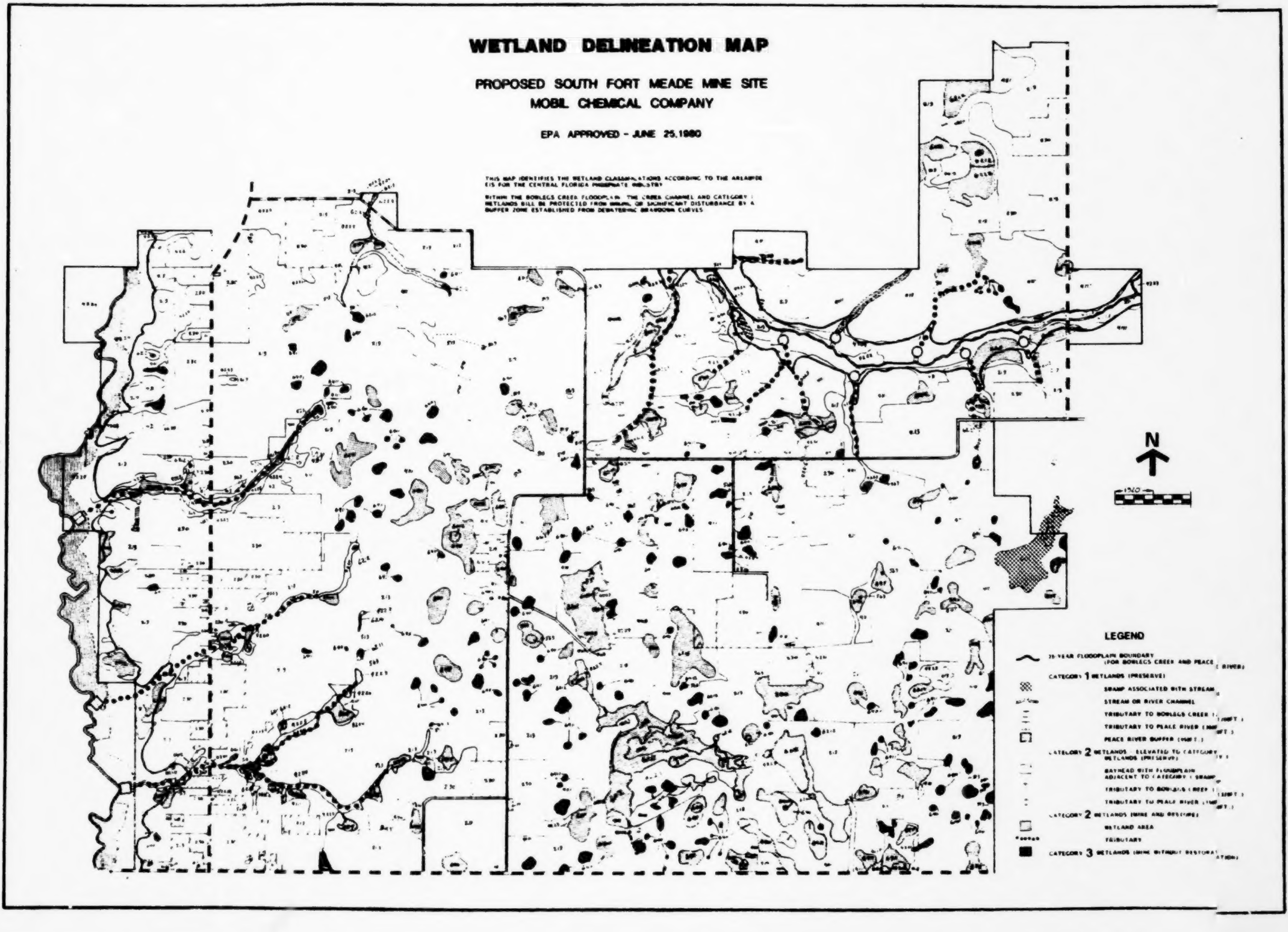
Figure 1

UNDISTURBED AREAS


R25E
R26E
T32S
T33S
N
Scale
0
1/2
1 mile
LEGEND
▨ UNDISTURBED AREAS
● WETLANDS TO REMAIN UNDISTURBED

SOURCE: ZELLARS-WILLIAMS

Figure 2


WETLAND DELINEATION MAP
PROPOSED SOUTH FORT MEADE MINE SITE
MOBIL CHEMICAL COMPANY
EPA APPROVED - JUNE 25,1980
THIS MAP IDENTIFIES THE WETLAND CLASSIFICATIONS ACCORDING TO THE AREAWIDE EIS FOR THE CENTRAL FLORIDA PHOSPHATE INDUSTRY
WITHIN THE BOWLEGS CREEK FLOODPLAIN, THE CREEK CHANNEL AND CATEGORY 1 WETLANDS WILL BE PROTECTED FROM MINING OR SIGNIFICANT DISTURBANCE BY A BUFFER ZONE ESTABLISHED FROM DEWATERING DRAWDOWN CURVES
N
1320
LEGEND
25-YEAR FLOODPLAIN BOUNDARY (FOR BOWLEGS CREEK AND PEACE RIVER)
CATEGORY 1 WETLANDS (PRESERVE)
SWAMP ASSOCIATED WITH STREAM
STREAM OR RIVER CHANNEL
TRIBUTARY TO BOWLEGS CREEK (
TRIBUTARY TO PEACE RIVER (
PEACE RIVER BUFFER (
CATEGORY 2 WETLANDS - ELEVATED TO CATEGORY 1 WETLANDS (PRESERVE)
BAYHEAD WITH FLOODPLAIN ADJACENT TO CATEGORY 1 SWAMP
TRIBUTARY TO BOWLEGS CREEK (
TRIBUTARY TO PEACE RIVER (
CATEGORY 2 WETLANDS (MINE AND RESTORE)
WETLAND AREA
TRIBUTARY
CATEGORY 3 WETLANDS (MINE WITHOUT RESTORATION)